

# Investing in a **Just and Sustainable Transition** in Africa



**ECONOMIC REPORT ON AFRICA**



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**ECONOMIC REPORT ON AFRICA**

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# ABBREVIATIONS AND ACRONYMS

°C	degrees Celsius	IMF	International Monetary Fund
4IR	Fourth Industrial Revolution	IRENA	International Renewable Energy Agency
ACF	African Climate Foundation	IRP	International Resource Panel
AFC	African Finance Corporation	JST	just and sustainable transition
AfCFTA	African Continental Free Trade Area	LDCs	least developed countries
AfDB	African Development Bank	MDBs	multilateral development banks
AMCEN	African Ministerial Conference on the Environment	NDCs	Nationally Determined Contributions
AU	African Union	OECD	Organisation for Economic Co-operation and Development
AUC	African Union Commission	PPP	public–private partnership
CEPII	Centre d’Etudes Prospectives et d’Informations Internationales	REIPPPP	Renewable Energy Independent Power Producer Procurement Programme, South Africa
CO <sub>2</sub>	carbon dioxide	RSF	Resilience and Sustainability Facility of the IMF
COP	Conference of the Parties	SDGs	Sustainable Development Goals
DBSA	Development Bank of Southern Africa	UN	United Nations
DFIs	development finance institutions	UNCTAD	United Nations Conference on Trade and Development
DRM	domestic resource mobilization	UNDESA	United Nations Department of Economic and Social Affairs
ECA	United Nations Economic Commission for Africa	UNDP	United Nations Development Programme
ERA	Economic Report on Africa	UNEMG	United Nations Environment Management Group
ESG	environmental, social, and corporate governance	UNEP	United Nations Environment Programme
FDI	foreign direct investment	UNFCCC	United Nations Framework Convention on Climate Change
GCF	Green Climate Fund		
GDP	gross domestic product		
GEF	Global Environment Fund		
GEO	Global Environmental Outlook Report on Africa		
GFANZ	Glasgow Financial Alliance for Net Zero		
GW	gigawatts		
ICA	Infrastructure Consortium for Africa		
IEA	International Energy Agency		
IFIs	international financial institutions		

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# FOREWORD

Africa faces persistent hurdles to its inclusive and sustainable development. Despite several pockets of excellence in the continent's progress towards the Sustainable Development Goals (SDGs) and the African Union's Agenda 2063, the number of SDG targets that require acceleration or reversal exceeds those that are on course. To reverse this trajectory, Africa requires financing of about \$1.6 trillion through 2030. In a multipolar, geopolitically unstable world mired in polycrisis, Africa cannot continue with business-as-usual and be fit for purpose.

The confluence of crises triggered by the Covid-19 pandemic, conflict, and climate-related disasters has reversed social and economic development gains of the past decades. Africa's average real GDP growth in recent years, even when accounting for an acceleration anticipated in the medium term, is below its potential and the rate needed to achieve its socioeconomic goals. Poverty, inequality, food insecurity, and unemployment continue to be aggravated with 476 million people, or about one third of the continent's population and 50 million more than in 2019, estimated to be in poverty in 2024. Moreover, the number of people vulnerable to poverty rose by 28% from 2019 to 2023. The continent needs to enhance its climate resilience and embark on a greener growth path to generate quality jobs and contribute to global efforts to combat climate change and preserve the biosphere.

A just and sustainable transition (JST) promoting accelerated, inclusive, and sustainable growth, as well as diversification and green industrialization will help Africa reach its potential. In this context, the *Economic Report on Africa 2024* analyses the opportunities and policies for Africa to build a just and sustainable economic system. For this to materialize, however, African countries need holistic development plans and strategies that fundamentally redirect their production, consumption, governance, technology, human capital, and financial systems. The private sector will play a key role in both the design and implementation stages.

Fostering investment in a JST on the continent will require African countries to mobilize the required financing both domestically and externally. Leveraging Africa's potential for a JST would also hinge on transformational leadership guided by an African narrative, supported by multistakeholder coalitions at the national and regional levels. Finally, presenting united and amplified African voice at key global institutions will be critical. The AU's gaining a seat at the G20 provides an opportunity to articulate Africa's views on key issues for the continent.

Africa is well positioned to successfully pursue a JST that best serves its people and strategic interests. The 2024 edition of the *Economic Report on Africa* lays the foundation for catalysing the required policy and institutional frameworks for doing so.

***Africa is well positioned to successfully pursue a JST that best serves its people and strategic interests. This year ECA's Economic Report for Africa lays the foundation for catalysing the required policy and institutional frameworks for doing so.***



**Claver Gatete**

**Under-Secretary General and Executive Secretary  
United Nations Economic Commission for Africa**

# EXECUTIVE SUMMARY

**A**mid the fragmented and conflict-prone world, Africa faces many economic, social, and environmental challenges. They are unprecedented in scale, complexity, and interconnectedness, and they impede Africa's attaining the 2030 Agenda for Sustainable Development and the African Union's Agenda 2063. These global challenges render business-as-usual strategies unsustainable. A new approach is required to accelerate wealth creation, reduce inequality, and achieve more equitable and sustainable development.

The increased demand for renewable energy encourages African countries to transition to inclusive, low-carbon, and resource-efficient economies, while closing the energy gap. Transitioning to full energy access and sustainability will require changes in interdependent societal systems across multiple levels—from more strategic participation in global supply chains to the behaviour of individual citizens. Industrializing Africa on fossil fuels only is not feasible given the planetary crisis. In the medium term, the continent will increasingly use renewables to close its energy gap. Progress will depend on how the African policymakers will approach the critical transition elements and drivers in the coming decades.

The Economic Report on Africa (ERA) 2024 presents the case for investing in a just and sustainable transition (JST) while achieving energy access for all. Using country case studies, macro, sectoral and firm evidence, and the findings and recommendations of previous ERA editions, the 2024 report assesses the necessary conditions for a JST in Africa and how to catalyse the needed investment.

The 2024 ERA proposes defining the JST from an African perspective and highlights the opportunities and policy imperatives for African countries to achieve it. The report aims to:

- Contextualize and conceptualize the imperative for JSTs for Africa to achieve its economic, social, and environmental priorities.
- Highlight opportunities and assessing the state of JSTs in Africa in terms of the three pillars of sustainability: environmental, social, and economic.
- Evaluate the opportunities for financing the JSTs in Africa based on country case studies.
- Recommend policies and frameworks for Africa to successfully undertake the JSTs.

The report underlines the leapfrogging opportunities stemming from Africa's early stage of development and generous endowment in natural resources. The latter is key for sustainability transition. The report underscores Africa's other strengths such as arable land and youthful populations. Making the most of them will require not only a fundamental shift in countries' policy and planning processes, but also much greater and more effective involvement of the private sector and development partners. This report also highlights the policy and institutional mindset shifts required to catalyse JSTs in Africa.

To reach its objectives, the JST needs to reflect Africa's specificities. An interpretation of a JST that serves Africa needs to be well defined as an economic system encompassing environmental sustainability, social mitigation, and green industrialization. The desired result is not only sustainable energy generation, environmental protection, and social mitigation, but also a wider green industrial transformation. The foundation for JSTs is the emerging business models and best practices that generate substantial resource savings through circular economies and leapfrogging technologies while driving development.

However, for Africa to rapidly exit from fossil fuels is not an option, given a rapidly growing population with about 600 million Africans lacking electricity. The shift to renewables thus needs to be gradual, while other sources will still play a key role over the medium term.

## KEY MESSAGES

*African countries can achieve their development objectives by promoting low-carbon development paths driven by the region's abundant and diverse renewable energy resources, but the transition away from fossils needs to be gradual, as stated in the African Common Position on Energy Access and Just Energy Transition, led by the African Union.*

*Africa has window of opportunity to undertake impactful, just and sustainable transitions (JSTs) guided by African-informed narratives and needs.* Factors such as its youthful population, arable land, renewable resource endowments, huge deposits of strategic minerals, and latecomer advantages from emerging technologies position Africa to shape the sustainability transition at the global level while closing its own gaps in energy availability.

*Despite Africa's huge potential, investment in its sustainability transition, and in renewable energy sources especially, remains negligible.* The five country case studies of Gabon, Kenya, Morocco, Senegal, and South Africa in this report show that attracting investment into renewables is possible, but success so far has been limited to specific sectors in a handful of countries. Morocco has achieved notable progress in mobilizing resources for the transition.

*For the transition in Africa to be just, it needs to be embedded in African narratives, pursuing Africa's best interests and relying on key enablers.* Those enablers include renewable energy development, low-carbon industrialization, resource-efficient technologies, collaborative governance, adequate public and private investment flow, closing energy gaps, enhancing well-being, and creating jobs. To succeed, the transition needs to be Africa-led.

*Achieving JSTs in Africa requires fundamental shifts in the economic, governance, and technology systems.* These shifts need to be driven by efficient natural resource use, sustainable infrastructure development, low-carbon industrialization, and resilient agroecological systems. Repositioning Africa in global value chains and creating green jobs for its young people will require transitioning from an extractive-economy to a value-adding, productive economy increasingly powered by clean energy.

*While pursuing JSTs, African policymakers should be guided by forward-looking visions and strategies that maximize the continent's benefits from emerging economic and technological opportunities and use continental mechanisms such as the African Continental Free Trade Area for implementation.*

*Financing JSTs in Africa is crucial to ensure inclusive development of low-carbon resilient economies without compromising prosperity.* Transitioning will require heavy resources to fund capital investment, financial innovation, and social protection systems, and the continent will need to catalyse innovative approaches. To close the Africa's financing gap fairly and attain JSTs, the international financial architecture requires a paradigm shift and major reform.

*African countries are well positioned to expand their fiscal space by strategically leveraging their natural resources.* This can be done by developing strategic minerals, integrating natural capital into national resource accounting and planning processes, curbing illicit financial flows, and leveraging the continent's strategic role in the evolving geopolitical landscape.

***An interpretation of a JST that serves Africa's needs well defines it as an economic system encompassing environmental sustainability, social mitigation, and green industrialization. The desired result is not only sustainable energy transformation, environmental protection and social mitigation, but also a wider green industrial transformation.***

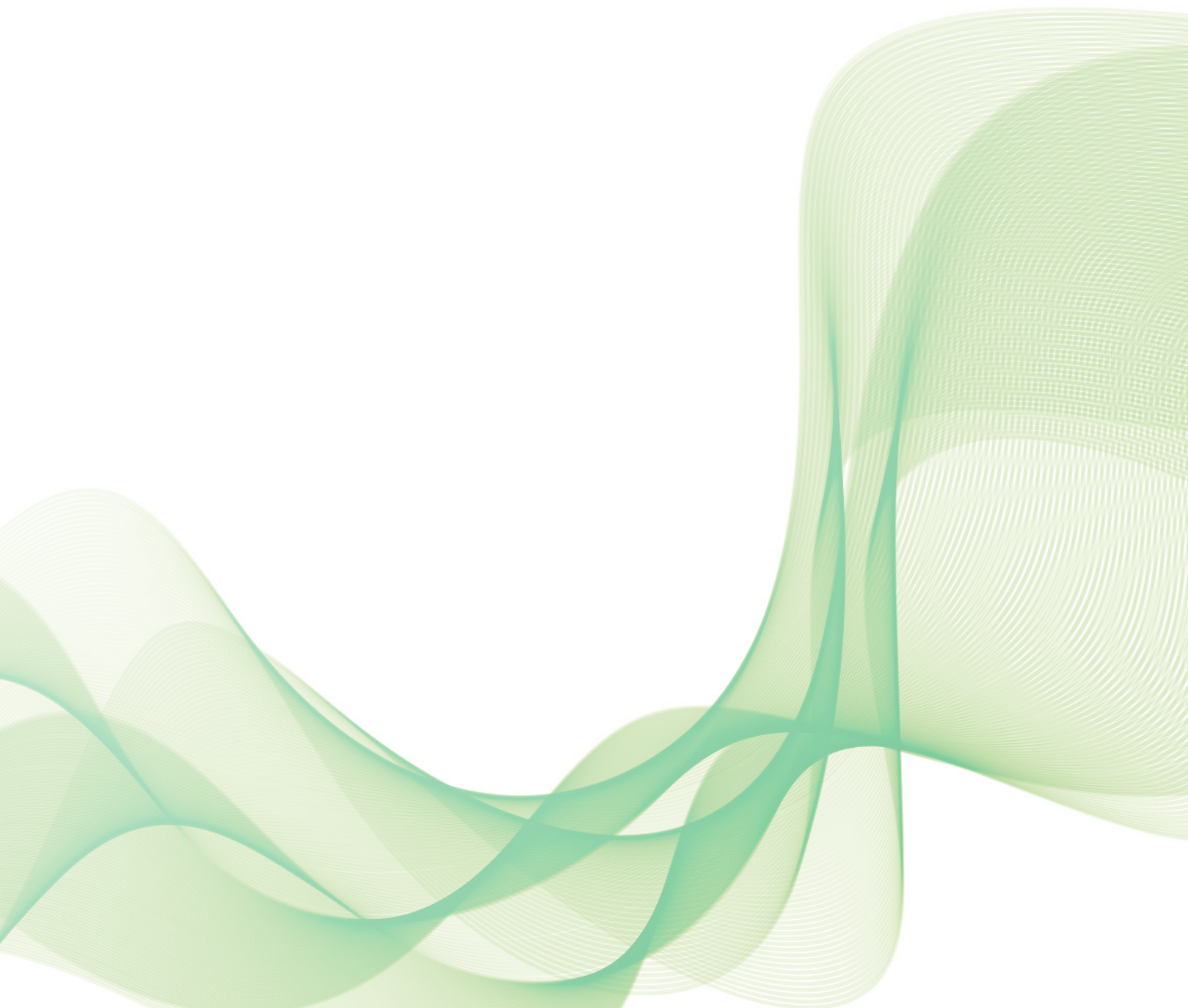
## KEY POLICY RECOMMENDATIONS

The overarching goal of a JST framework for Africa is to improve human well-being today without jeopardizing the well-being of future generations. This is to be achieved by fulfilling basic needs, creating productive jobs and sustainable livelihoods, and establishing a healthy ecosystem. Such a framework recognizes—as the driving forces for a JST—low-carbon industrialization that is inclusive, creates decent jobs, is environmentally sustainable while pursuing sustainable agroecosystems. Against this background, the main policy recommendations of the 2024 ERA are:

- **Strengthen strategies and policies for JSTs in Africa with national development plans that integrate national priorities with the SDGs and Agenda 2063 and associated financing mechanisms.** Development policies and strategies, championed by transformative leadership, should help African countries seize the leapfrogging opportunities given Africa's early stage of development, natural resources and human endowments, emerging technologies, and African Continental Free Trade Area.
- **Facilitate the key role of the private sector, but JSTs should be prudently managed rather than solely relying on market mechanisms.** This approach aims to reduce economic and social upheaval and support job creation, social inclusion, and poverty eradication.
- **Balance growth and strategic public investment while maintaining fiscal sustainability.** African governments need to mobilize more domestic financial resources and improve tax-to-GDP ratios by strengthening tax structures (including environmental taxes), capacity-building, institutions, procurement systems, and digital technology use. Streamlining subsidies and targeting social protection can raise the efficiency of fiscal spending.
- **Mobilize new financing and make smarter use of available financial resources to invest in Africa's untapped opportunities for JSTs.** The case studies reveal the steps that some African countries are taking to support investment in JSTs. Policy commitments and clear strategies supported by adaptable institutional mechanisms are key for achieving investment sustainability. They are also key for mobilizing capital through sustainable budgeting, private capital markets, green and blue bonds, and carbon credits.
- **Establish a dedicated national mechanism for financing JSTs, backed by the national bank or treasury, to facilitate more efficient use of available funding.** African countries can leverage the global boom in "green" minerals and other natural resources to export premium carbon credits, generating additional financing for sustainable investment.
- **Develop strategies for sustainably managing natural capital to foster investment in JSTs.** Incorporating natural capital in national development plans can expand fiscal space, providing a foundation for green fiscal policy instruments and for rebasing GDP. This effort should be underpinned by strategies for sustainable industrialization. This shifts the development policy focus to "strategic minerals" and Africa's enhanced role in processing, value addition, and global value chains.
- **Support multilevel collaborative governance, human capital, and leapfrogging technologies essential for JSTs.** Given the cross-border and cross-jurisdiction nature of climate change and ecological degradation, collaborative governance by all government levels, including international organizations, and other key stakeholders (firms, NGOs, citizens) is a precondition for successful JST implementation.
- **Build effective multistakeholder partnerships and coalitions at national, regional and global levels.** This includes multicountry frameworks such as the Climate Commission of African Island States to create synergies and improve coordination. The AU recent membership in the G-20 provides a platform for assertively voicing Africa's perspectives and influencing global decisions on the priority issues.

## STRUCTURE OF THE REPORT

The 2024 ERA is structured as follows. Chapter 1 reviews economic, social, and climate developments in Africa. Chapter 2 defines the JST from an African perspective and presents the analytical framework for subsequent chapters. Chapter 3 analyses the drivers of JSTs, Chapter 4 discusses the strategic investment opportunities, and Chapter 5 presents financing strategies.



# CHAPTER 1: RECENT ECONOMIC, SOCIAL, AND CLIMATE DEVELOPMENTS

## KEY MESSAGES

- The global economy has avoided recession but faces headwinds from multiple crises, including major conflicts and climate change. The outlook is mixed, with falling headline inflation and positive economic growth alongside continued challenges such as massive public debt, rising borrowing costs, weak global trade, and mounting geopolitical risks.
- Africa has shown remarkable resilience and remains the second-fastest-growing region globally. The region's challenges include weak global demand, tight global financial conditions, high debt levels, and high inflation, prompting further adjustments in economic policies and development strategies. Avoiding a debt crisis tops the policy agenda.
- The recent social and climate developments in Africa are alarming, with rising poverty, inequality, and unemployment, as well as more frequent and severe extreme weather events, exacerbating the continent's challenges.
- Africa is projected to have 476 million people living in poverty in 2024, which is about one third of its population and about 50 million more than in 2019. Turning the tide on poverty, unemployment, and inequality in an equitable and sustainable way will require focusing on job-rich and green growth, including strengthening human capital (health and education), leveraging the African Continental Free Trade Area (AfCFTA), and closing the food and energy gaps.

Investing in a just and sustainable transition (JST) in Africa must be in line with the Sustainable Development Goals (SDGs).<sup>1</sup> In addition to tackling the impacts of climate change and declining biodiversity, this includes building prosperity and enhancing people's well-being by guaranteeing food security; creating good and equitable employment opportunities; establishing adequate, durable, and sustainable power sources accessible to all; and promoting effective energy utilization.<sup>1</sup> Transitioning to a just and sustainable economy is anticipated to positively affect GDP growth, social inclusion, and environmental sustainability.<sup>2</sup>

***Africa was the fastest-growing region after developing Asia in 2023.***



# AFRICA HAS SHOWN RESILIENCE AGAINST STRONG HEADWINDS

## AFRICA'S GROWTH IS BELOW THE PRE-COVID-19 PANDEMIC RATE BUT REMAINS THE SECOND HIGHEST GLOBALLY

The global economy maintained its resilience in 2023, but numerous factors will continue to weigh on global growth in the short to medium term. These include high debt levels, rising borrowing costs, persistently low investment, weak global trade, and geopolitical risks. The 2023 growth was achieved thanks to declining energy and food prices, increased consumption in China, and improved economic growth in the United States, despite substantial monetary tightening and lingering policy uncertainties caused by multiple disruptions stemming from, for instance, climate change and conflicts. Global growth is forecast to decelerate from an estimated 2.7% in 2023 to 2.4% in 2024 before improving moderately to 2.7% in 2025, remaining below the average pre-pandemic rate of 3.0% (figure 1.1).

Africa's growth slowdown is projected to bottom out in 2023 and growth to gradually accelerate in 2024 and 2025. The continent's real GDP growth declined to 2.8% in 2023 but is projected to rise to 3.5% in 2024 and reach 4.1% in 2025. The external factors behind the 2023 slowdown included tighter monetary policy, constrained demand for African exports, and the war in Ukraine. These, in turn, impeded flows of development funds to the continent, constraining its fiscal space and the movement of commodities and services. Vast differences across subregions prevailed in 2023: 15 countries (including Côte d'Ivoire, Ethiopia, and Rwanda) grew by more than 5%.<sup>3</sup> The stronger and broad-based projected growth reflects the efforts at diversification, strategic investment in key sectors, and fiscal consolidation that many countries have pursued (figure 1.2). Africa was the fastest-growing region after developing Asia in 2023. For 2024, the African Development Bank projects that 11 of the 20 fastest-growing economies in the world will be in Africa. Still, the sluggish global recovery could reduce foreign direct investment (FDI) inflows and demand for Africa's exports, thus lowering the continent's growth.

Figure 1.1 Annual Real GDP growth in Africa and other global regions, 2018–25

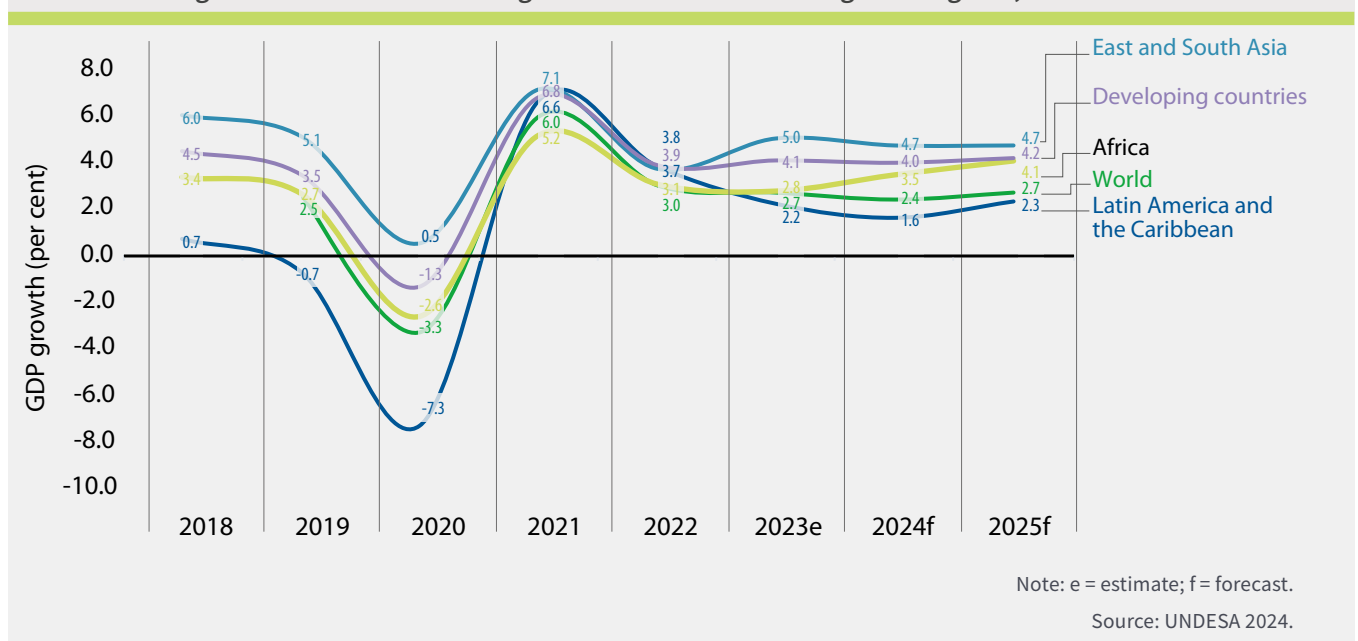
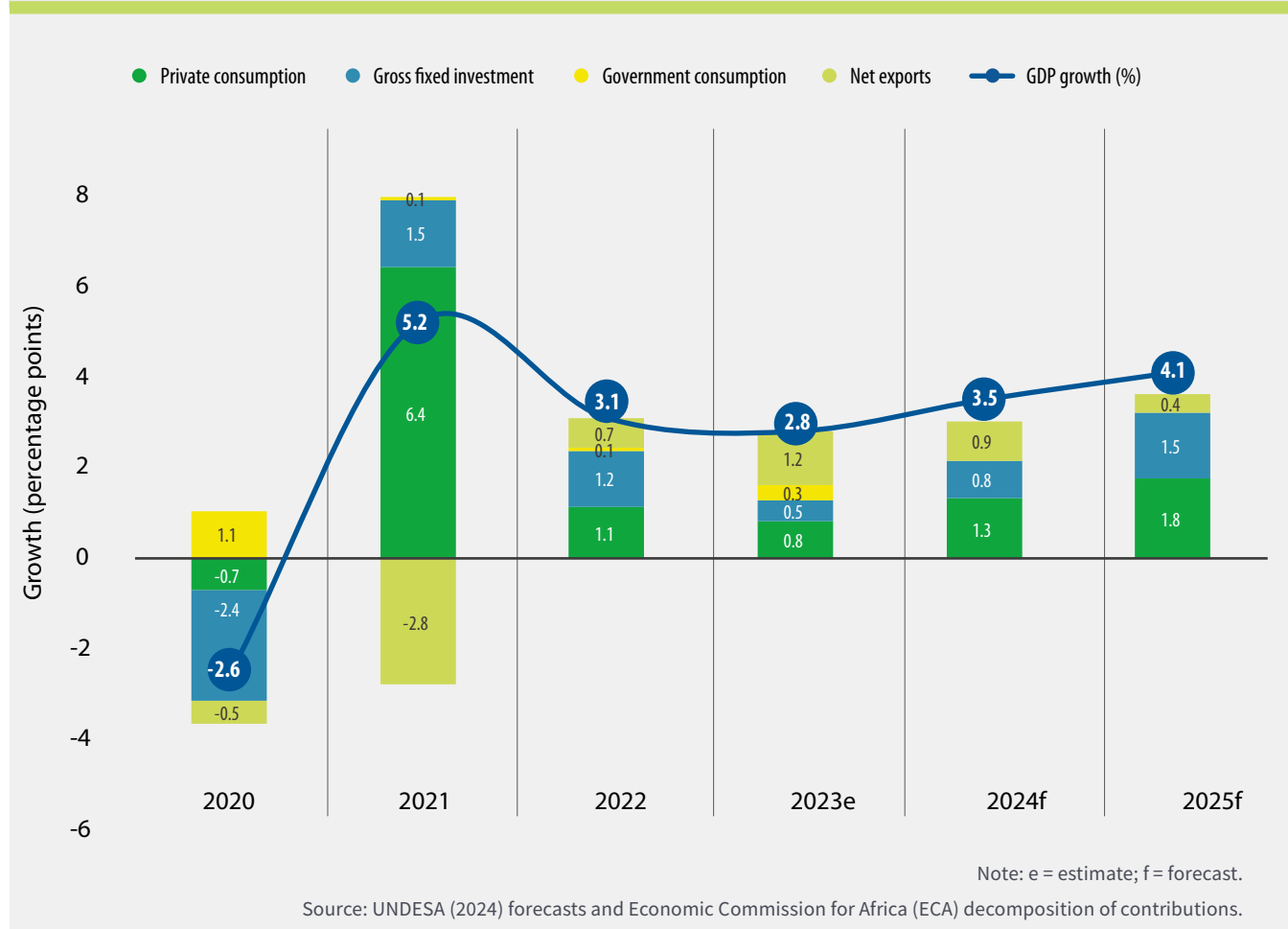


Figure 1.2 Component contribution to real GDP growth, 2020–25

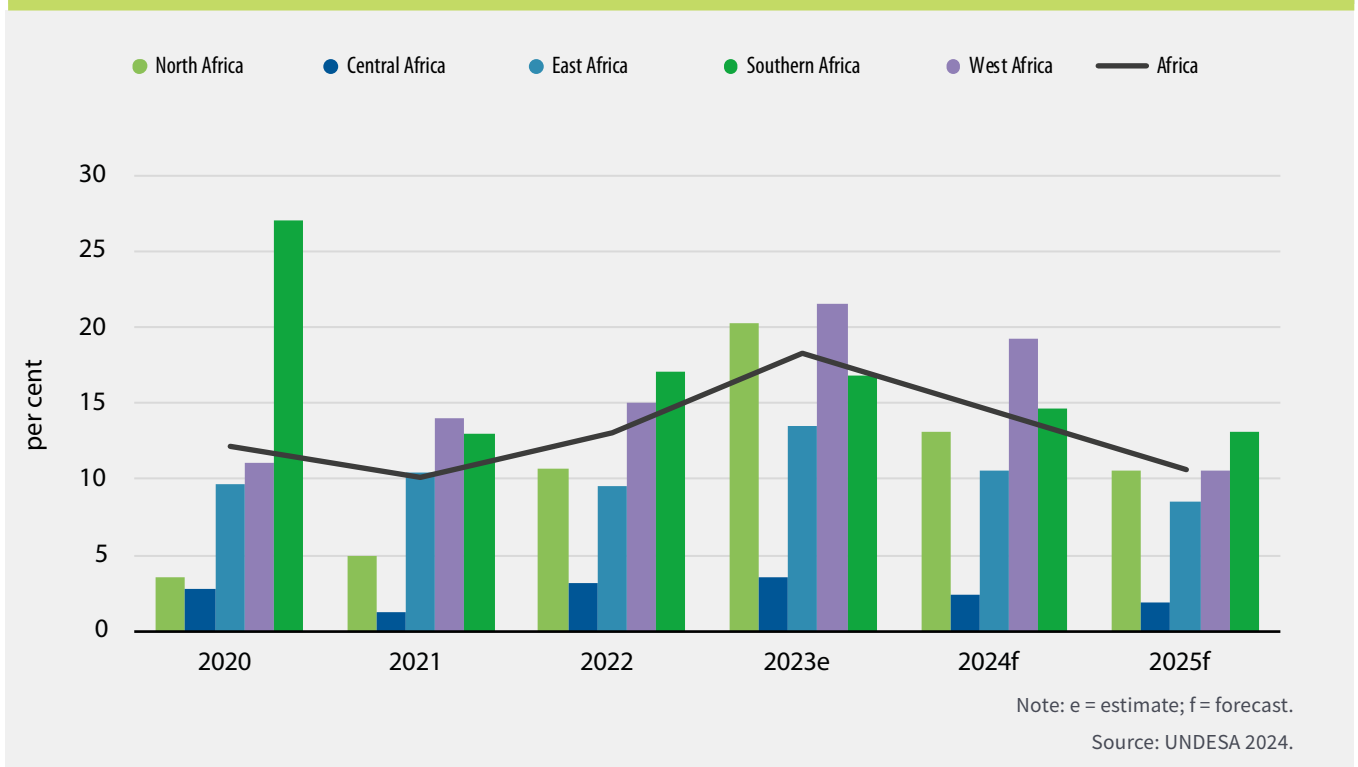


## INFLATION REQUIRES POLICYMAKERS' CONTINUED ATTENTION ...

Even though inflation has subsided in other regions, in Africa it remains elevated, mainly because of weakening domestic currencies, elevated commodity prices, and supply disruptions, as well as entrenched inflationary expectations among the public. Consumer price inflation for Africa is estimated at 18.3% in 2023, up from 13.1% in 2022 (figure 1.3). In some countries, including Sierra Leone, Sudan, and Zimbabwe, it remains stubbornly high, despite central bank efforts to raise policy rates, which, among other factors, reflects the low credibility of monetary policy and the slow and limited monetary policy transmission to the economy. High inflation has put additional pressure on policymakers to raise public spending to protect the most vulnerable population segments.

With many African currencies losing ground against the dollar, the continent's inflationary pressures remain elevated. The South African rand depreciated by almost 11% against the dollar in 2022, making it one of the currencies weakening the most among developing markets<sup>4</sup> and continuing the trend of the rand's dramatic depreciation of 173% against the dollar over the past 20 years. Nigeria's naira plunged 55%<sup>5</sup> in 2023, and the Kenyan shilling posted its largest drop in 30 years, depreciating by 21% against the dollar. Even though several central banks aggressively tightened monetary policy, easing inflationary expectations will require persistent and complementary monetary and fiscal policies.

Figure 1.3 Annual average inflation, by African subregion, 2020–25



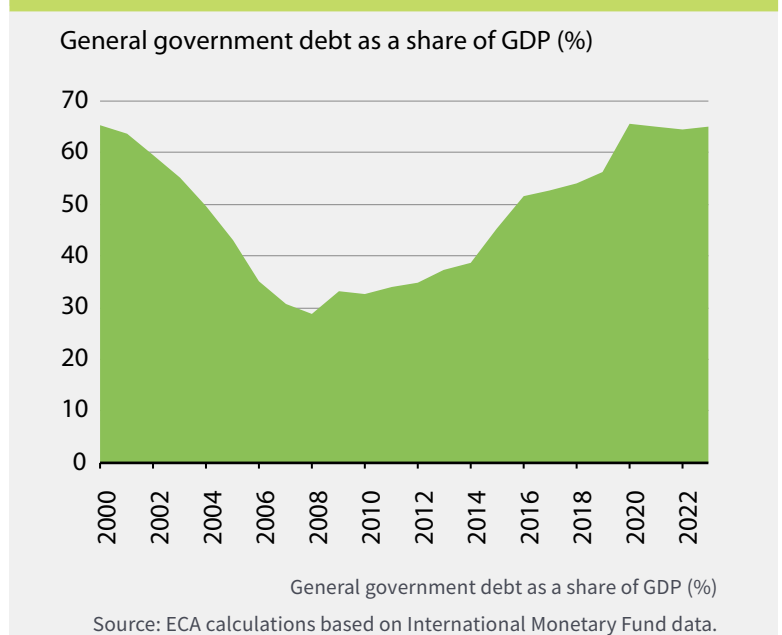
### ... AND SOVEREIGN DEBT CONDITIONS ARE ALARMING

At 4.5% of GDP in 2023, the continent's fiscal deficit surpassed its 2019 rate and is projected to rise further, to 5.0% in 2024. The main drivers of widening fiscal deficits, especially in resource-intensive economies, are net capital outflows and subdued export revenue. Continued restrictive global financial conditions are making the servicing of resulting public debt costlier, and regular catastrophic weather events are causing substantial losses and damage, further aggravating fiscal and other pressures. The situation is exacerbated by the average tax-to-GDP ratio remaining below its 2019 rate of 15.8%.

Africa's public debt increased by 183% in 2010–22, a rate roughly four times higher than its growth rate of GDP in dollar terms. While the need for official development assistance grew in this period, the flow has fallen and become less predictable. In terms of GDP,

the debt burden has reached pre-Multilateral Debt Relief Initiative levels (figure 1.4). The increase in the debt-to-GDP ratio since the initiative was caused by the countercyclical fiscal outlays during and after the 2007–08 global financial crisis, the commodity price shock of 2014, and rising infrastructure spending. The Covid-19 pandemic has exacerbated the debt situation, as increased public financing has been required to counter the negative socioeconomic the pandemic's consequences.

Figure 1.4 The downs and ups of Africa's sovereign debt, 2000–23



The distribution of public debt across the continent is uneven, with 40% held in North African countries, which have been disproportionately hit by the fallout from the war in Ukraine. The major debtors are large, middle-income countries, pointing to the need for targeted debt-relief policies for this subgroup (figure 1.5). The structure of the debt has also changed, from concessional to non-concessional, as creditors have shifted from multilateral and Paris Club creditors to private and non-Paris Club creditors, and to China in particular (figure 1.6). The higher borrowing costs and shorter maturities associated with non-concessional loans have contributed to elevated refinancing risks.

Figure 1.5 Distribution of Africa's sovereign debt by country, 2022

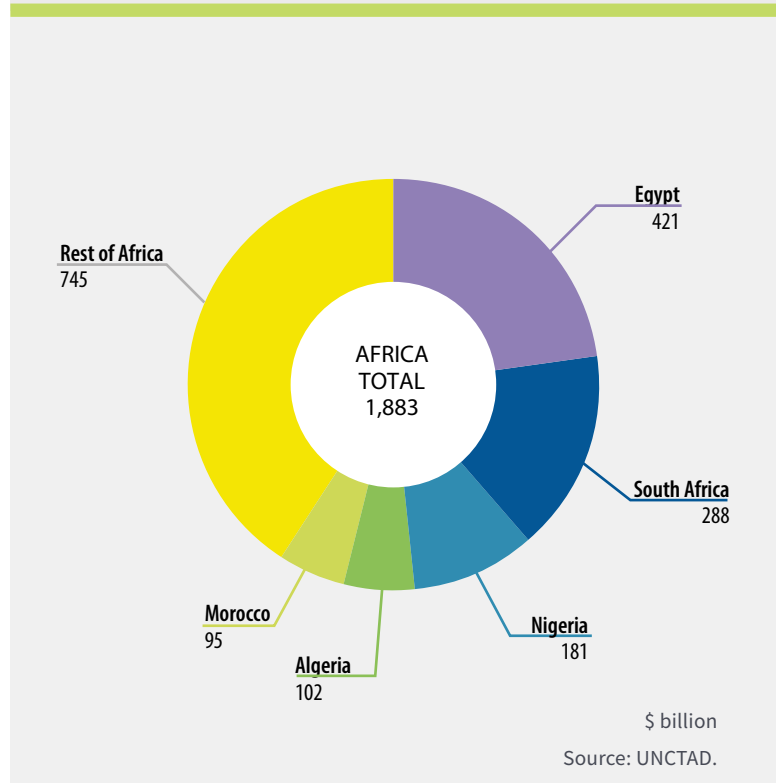
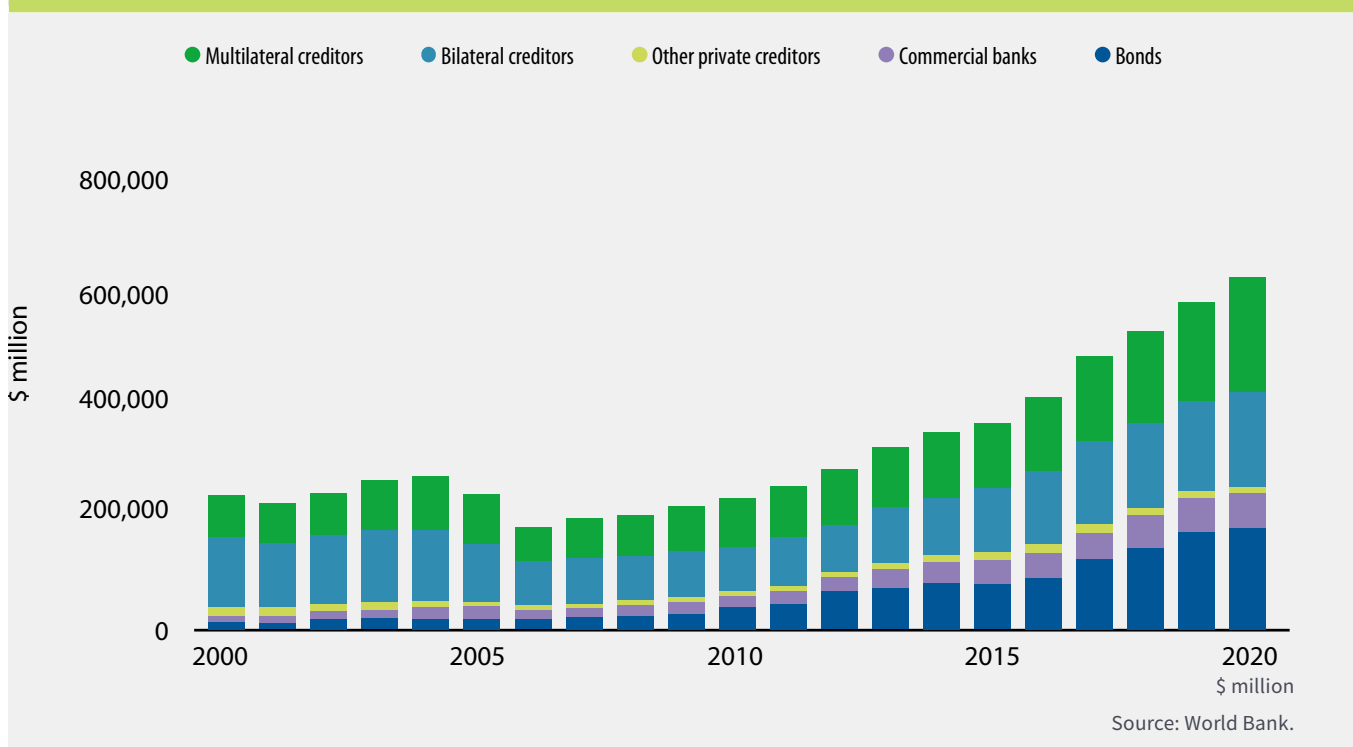


Figure 1.6 External public and publicly guaranteed debt in Africa, by creditor group, 2000–20



After sovereign debt defaults by Ethiopia, Ghana, and Zambia, African policymakers are concerned about the possibility of a debt crisis. The debt-to-GDP ratio is estimated to be 65.2% in 2023, thus wiping out the benefits of past debt relief initiatives. The rapid rise has been driven by growing financing needs from food and energy import bills, high borrowing costs, and exchange rate depreciation. Forecasts indicate that the ratio will remain above the pre-Covid-19 pandemic rate of 61% in 2023–25. Despite a general stabilization in debt levels, according to the

International Monetary Fund (IMF), as of February 2024, seven African countries were in debt distress, and 13 were at high risk of debt distress.<sup>6</sup> High borrowing costs and appreciation of the dollar have increased the debt servicing burden of foreign currency–denominated debt. With cumulative Eurobond repayments in 2024 and 2025 reaching about \$6 billion, several African countries face heightened rollover risks for their sovereign debts.

The heavy debt burdens have impeded African governments' capacity to finance health, education, sustainable infrastructure, and the energy transition, among others. To turn the situation around, countries that face solvency and liquidity constraints, such as Ethiopia, Ghana, Malawi, and Zambia, are pursuing or undergoing public debt restructuring. Other countries that face challenges in meeting their external financing needs, such as Egypt, have received support from IMF programs. Beyond general consolidation, some countries (Angola, the Gambia, Nigeria, and Zambia) have started to implement substantial energy-subsidy reforms to create space for development spending. Nevertheless, these piecemeal solutions are inadequate—comprehensive reform of the debt architecture is needed.

## INVESTMENT AND TRADE ARE KEY PILLARS FOR SUSTAINABLE DEVELOPMENT

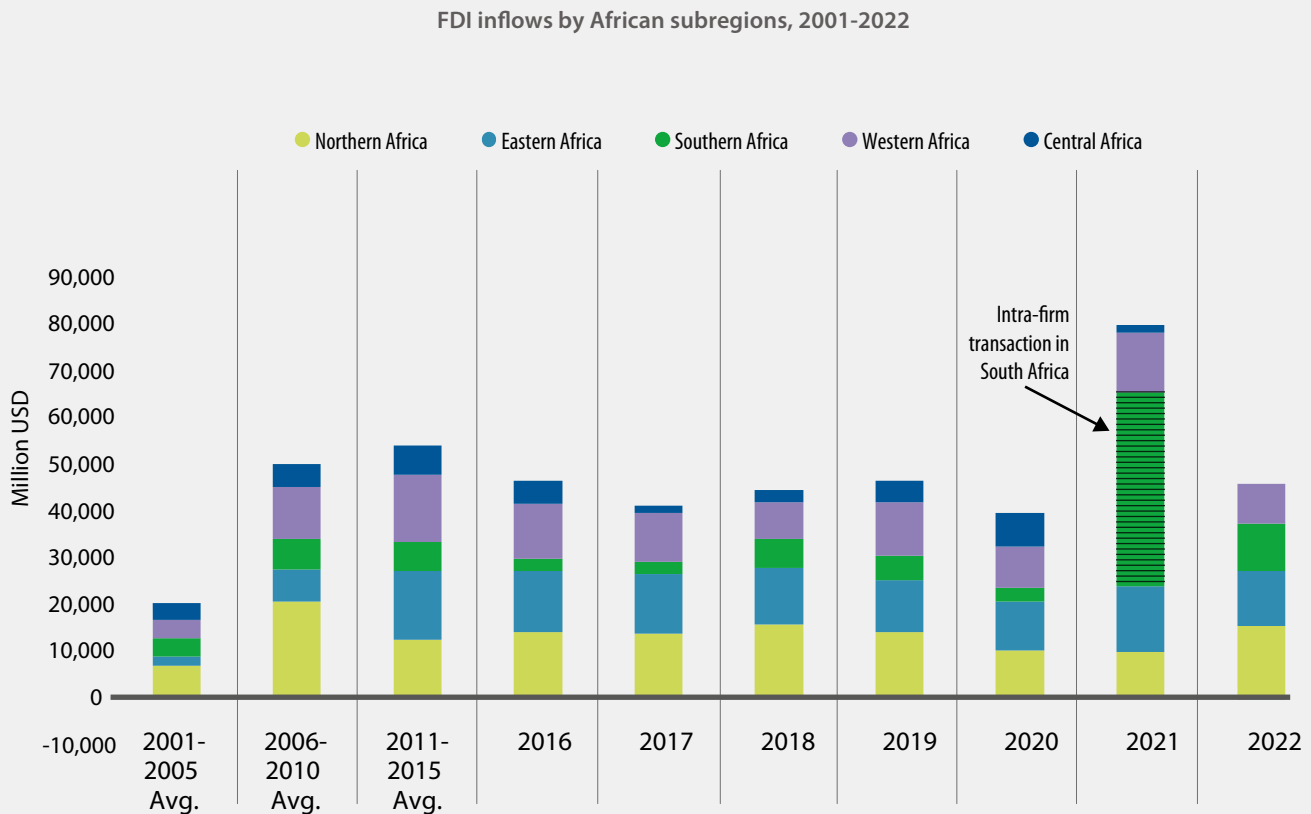
### INVESTMENT TRENDS AND PROSPECTS ARE STILL MIXED BUT GRADUALLY IMPROVING

In 2022, FDI amounted to \$45 billion, equivalent to less than 2% of the continent's GDP and accounting for less than 4% of global FDI flows. North Africa has traditionally been a magnet for FDI, as Egypt emerged as the top destination for capital investment in 2022, mainly because of large-scale projects in green hydrogen. But with conflicts in Gaza and Sudan, the country's FDI prospects worsened. European investors remain the largest holders of FDI stock in Africa, led by the United Kingdom, France, and the Netherlands. Africa saw a surge in FDI in 2021, with an inflow of \$83 billion, but almost half resulted from a single intrafirm transaction in South Africa linked to a major corporate reconfiguration (figure 1.7). On a more positive note, the value of greenfield projects announced in Africa surged to \$195 billion in 2022, with the number of projects rising to 766. Africa housed 6 of the top 15 greenfield megaprojects (worth more than \$410 billion) announced in 2022.

The prospects for FDI flows to Africa for the next few years remain mixed—albeit gradually improving—and subject to downside risks. The investment environment is marked by uncertainty, owing to geopolitical tensions, the war in Ukraine, the Israel– Hamas conflict, and risks of global economic slowdown. On a more positive note, rebounding growth, falling interest rates in advanced economies, and natural resource endowments bode well for investors' interest in Africa's opportunities. While resource-oriented industries continue to attract the largest share of greenfield announcements, recent trends show increasing diversification from raw materials into manufacturing and services (box 1.1).

***...heavy debt burdens have impeded African governments' capacity to finance health, education, sustainable infrastructure, and the energy transition, among others.***

Figure 1.7 Annual foreign direct investment inflows, by African subregion, 2001–22



Source: <https://unctadstat.unctad.org/datacentre/dataviewer/US.FdiFlowsStock>.

### Box 1.1 Emerging investment opportunities

Africa is yet to tap the developmental potential of its critical minerals. The worldwide drive towards a green transition and the fourth industrial revolution is boosting demand for products like batteries and semiconductors, which depend heavily on critical minerals. The demand–supply imbalance in critical minerals has been intensifying. In 2022, foreign investors committed over \$92 billion to electric vehicle manufacturing projects, while only \$14.6 billion was directed towards greenfield foreign direct investment (FDI) in the mining industry. This disparity widens when one considers the different timelines for starting production. While mining projects may require up to 20 years from the discovery of a deposit to the start of production, downstream operations, such as battery production, can begin production in as little as three years. The situation underscores a scenario of intensifying competition for securing essential minerals across industries.<sup>7</sup>

Recognizing the importance of securing critical minerals reliably and affordably, companies are increasingly taking steps to shorten their supply chains. One strategy is vertical integration, where manufacturers control the mining and refining processes. For instance, Germany's Volkswagen is forming partnerships with mining companies to source raw materials directly.<sup>8</sup> This increasing reliance on critical minerals places Africa in a favourable position to attract growth-oriented investment. Effectively leveraging this potential could spark industrial diversification and expand manufacturing capacities on the continent, as exemplified by the development of Democratic Republic of the Congo–Zambia battery special economic zone. Moreover, this landscape offers Africa a chance to bolster its presence in key profit-generating industries of the fourth industrial revolution.

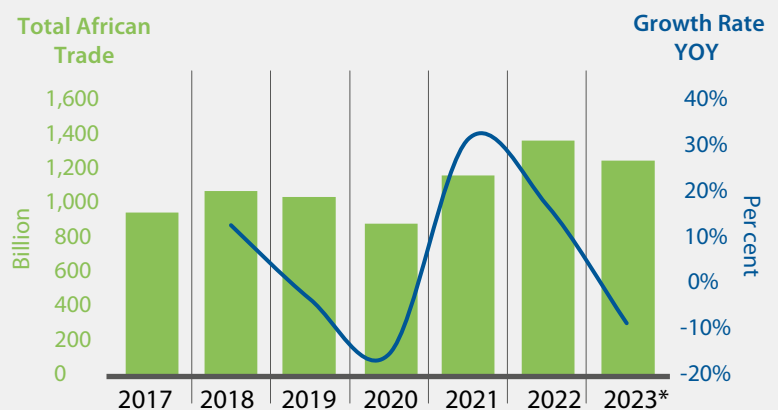
In 2022, the renewable energy sector achieved a record-breaking milestone in global capital investment worldwide, with \$343.6 billion invested across 527 projects.<sup>9</sup> The surge in renewable energy investment is driven by global climate policies, technological advances that are making renewables more cost-effective, growing emphasis on sustainability among investors and consumers, and concerns for energy security. Investor interest in Africa's rich yet underused renewable energy resources is evident. With only 1% of land suitable for energy development currently being tapped, potential capacities are immense.

This investor interest is seen in recent FDI trends. Notable projects announced in 2022 include the South Africa Green Hydrogen Project (\$10 billion), the ReNew Suez Canal Economic Zone Green Hydrogen Plant Project in Egypt (\$8 billion), the 400 megawatt (MW) Egypt Solar-Powered Desalination Plant Project (\$1.5 billion), plans by Total Eren in Luxembourg to build a hydrogen and green ammonia production plant in Morocco (\$10 billion), and a project to construct a 936 MW solar power plant and a 443 MW-hour battery storage facility in Nigeria (\$1.8 billion).<sup>10</sup> Niger, Egypt, Mauritania, Morocco, Namibia, and South Africa lead hydrogen production on the continent.<sup>11</sup>

## THE AFRICAN CONTINENTAL FREE TRADE AREA PROTECTS AGAINST GLOBAL HEADWINDS AND IS KEY TO ECONOMIC DIVERSIFICATION

In 2023, the African trade share of global trade remained at less than 3%, and its trade with the rest of the world declined from 2022 (figure 1.8). The decline reflected subdued export revenue, mainly in resource-rich countries.<sup>12</sup> Further, while Africa's overall 2023 exports are estimated at \$600 billion, intra-Africa exports will reach only \$110 billion, pointing to the need to fully implement the AfCFTA (figure 1.9). Similarly, Africa's imports have continued to grow, reaching an all-time high of \$698 billion in 2022 before falling slightly to an estimated \$666 billion in 2023. Even so, Africa's imports from within the continent remain low, exposing it to external shocks.

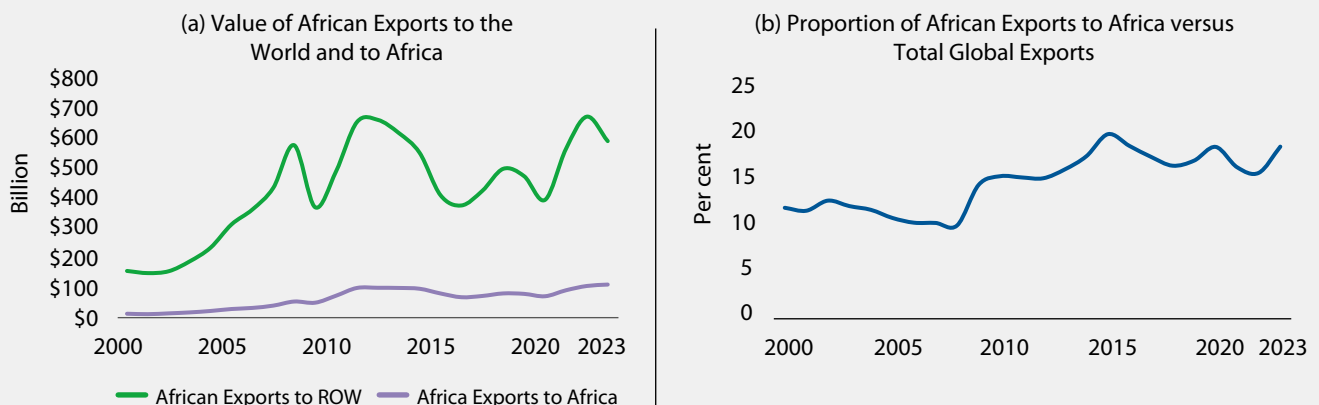
Figure 1.8 African trade values and annual growth rates, 2017–23



Note: 2023 values are estimated using data through August 2023. Total trade is the sum of imports and exports.

Source: IMF Direction of Trade Statistics Database (2023).

Figure 1.9 Global and intra-Africa exports, 2000–23  
In billions of USD and as % of total exports

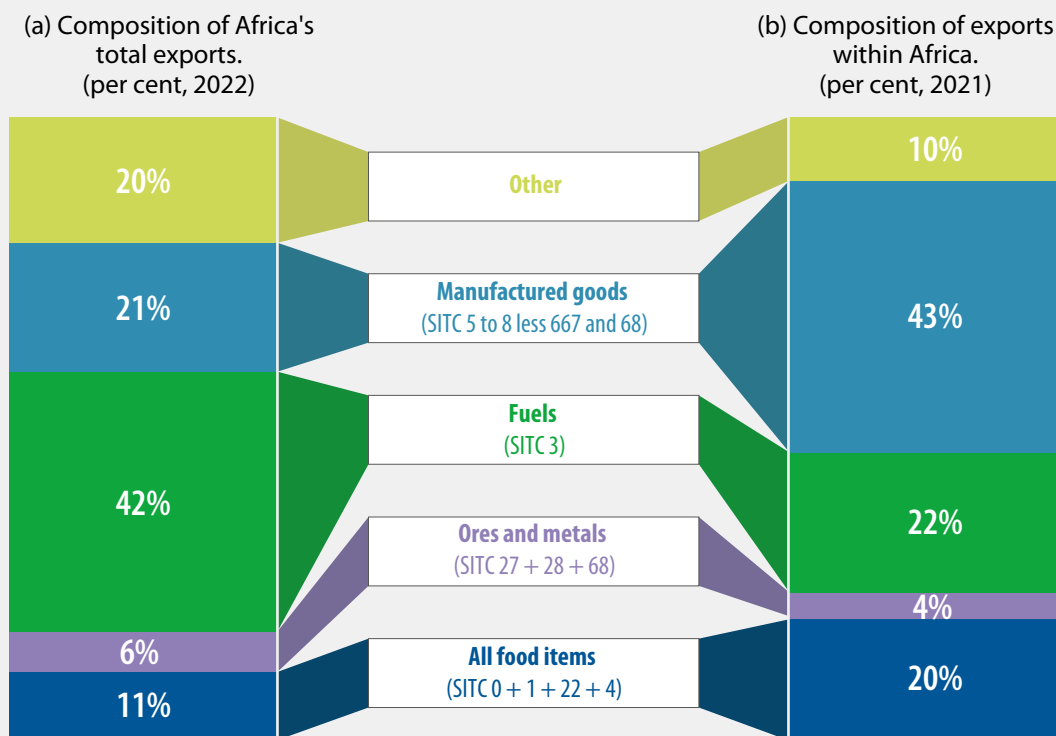


Note: 2023 values are estimated based on data available through August 2023. Total trade is the sum of imports and exports.

Source: IMF Direction of Trade Statistics Database.

The AfCFTA is poised to help Africa industrialize and reduce its dependence on energy and mining. While Africa's total exports are concentrated in extractives, intra-Africa exports are concentrated in goods higher along key value chains. In 2022, fuels, ores, metals, and foodstuffs came to 60% of Africa's total exports, while manufactured goods accounted for 43% of intra-Africa exports (figure 1.10). The high share of commodity exports keeps Africa at the bottom of value chains and dependent on the rest of the world for imports of manufactured and finished products. Full implementation of the AfCFTA, however, will increase intra-Africa trade by an estimated 35% in 2045, benefiting all main sectors: agrifood (up by 54%), services (38%), industry (36%), and energy and mining (19%). The AfCFTA will reduce Africa's dependence on manufactured imports, because agrifood and industry stand to benefit the most from it (figure 1.11).

Figure 1.10 Composition of Africa's exports, 2022

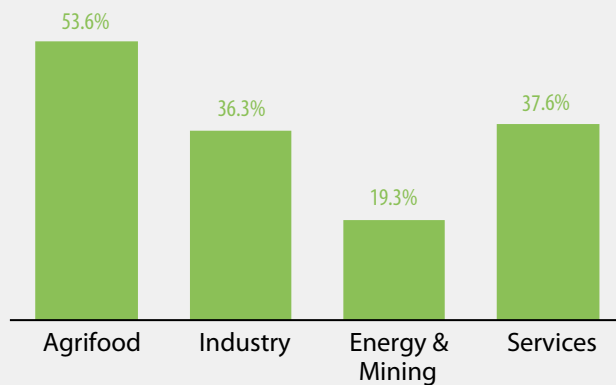


Note: SITC = Standard Int. Trade Classification.

Source: UNCTADStat Database, accessed 12 December 2023.



**Figure 1.11** Expected increase in intra-Africa trade from the African Continental Free Trade Area by 2045, overall and by main sectors



Note: Percentage increase by 2045 from a baseline without the AfCFTA.

Source: ECA and CEPII forthcoming.

Fully implementing the AfCFTA is key also for promoting intra-Africa investment (box 1.2). The AfCFTA's dedicated investment protocol establishes uniform standards across the continent for promoting and facilitating investment and protecting investors, creating a consistent and predictable policy environment. Moreover, the AfCFTA introduces various mechanisms to enhance coherence. Clearly, creating a common market through the AfCFTA with a potential market of more than 1.4 billion people presents a more appealing prospect to investors than dealing with 54 countries individually.

### Box 1.2 The African Continental Free Trade Area—a key for boosting foreign direct investment

During times of increased global uncertainty, attracting and retaining foreign direct investment (FDI) hinge on improving the predictability of investment environments and enhancing the bankability and profitability of investment opportunities. A key factor is to establish clear and predictable policy and legal frameworks. Policy uncertainty can act as a tax on investment.<sup>13</sup> Further, a study focusing on Uganda highlights that policy consistency and political stability are crucial, often outweighing the attractiveness of incentives for drawing FDI inflows.<sup>14</sup>

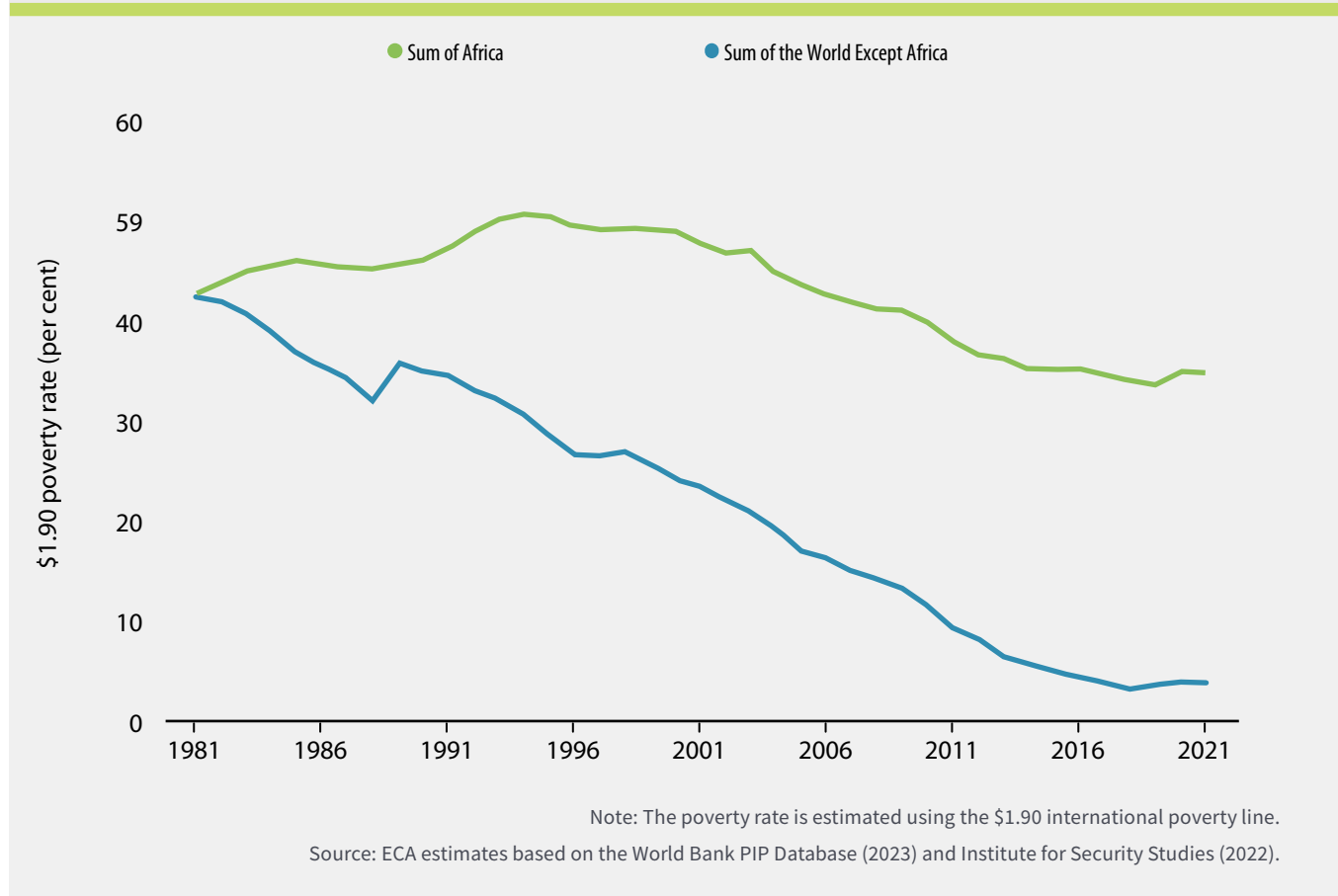
The African Continental Free Trade Area (AfCFTA) provides such a stable and predictable framework: it contains a dedicated investment protocol for establishing uniform standards across the continent for promoting and facilitating investment, protecting investors, and creating a consistent and predictable policy environment, replacing the current fragmented environment characterized by 852 bilateral investment treaties involving Africa. Moreover, the AfCFTA introduces several mechanisms to enhance coherence, such as a Pan-African trade and investment agency, one-stop shops, and national focal points, as well as the simplified and digitized registration processes under the AfCFTA, which could enhance transparency.

Further, the AfCFTA presents a major boost for market-seeking investors, for whom market size is a key determinant in selecting a host country or subregion, as larger markets make investing more attractive thanks to economies of scale and expanded sales avenues. In addition, an Africa integrated under the AfCFTA would help mitigate risks related to demand fluctuations and political or economic instability in individual countries or subregions.

## AFRICA NEEDS TO TURN THE TIDE OF POVERTY AND STRUCTURAL UNEMPLOYMENT

The confluence of crises triggered by the Covid-19 pandemic, conflicts, and climate-related disasters have reversed the social and economic development gains accrued over recent decades. Based on a recent study by ECA, 476 million Africans—about one third of the population and 50 million more than in 2019—will be in poverty in 2024. Moreover, the share of poor people living in Africa is almost seven times higher than that in the rest of the world (figure 1.12). A jump in the number of people vulnerable to poverty (measured as those living up to 20% above the poverty line) in 2019–23 also causes concern.

Figure 1.12 Extreme poverty rate in Africa and globally, 1981–21



The capacity of African countries to tackle poverty and inequality is severely constrained by the low poverty-reducing effect of economic growth (with poverty elasticity of growth at  $-0.24$  in 2023). This confirms that countries with low initial development (or high initial poverty rates) and high inequality tend to have lower growth–poverty elasticities. The growth models of many African countries, where extractive sectors are the leading source of growth, are also a critical underlying factor of the low poverty elasticity of growth. Extractives are capital intensive, are non-labour-intensive, and have few links with other sectors. Thus, growth originating from extractive industries is unlikely to create the many jobs needed to reduce poverty and income inequality. Compared with other

**Based on a recent study by ECA, 476 million Africans – about one third of population and 50 million more than in 2019 – will be in poverty in 2024.**

developing regions that have a comparable economic growth rate, Africa has seen slow poverty reduction. It needs to sustainably transition its economy to ensure more inclusive growth.

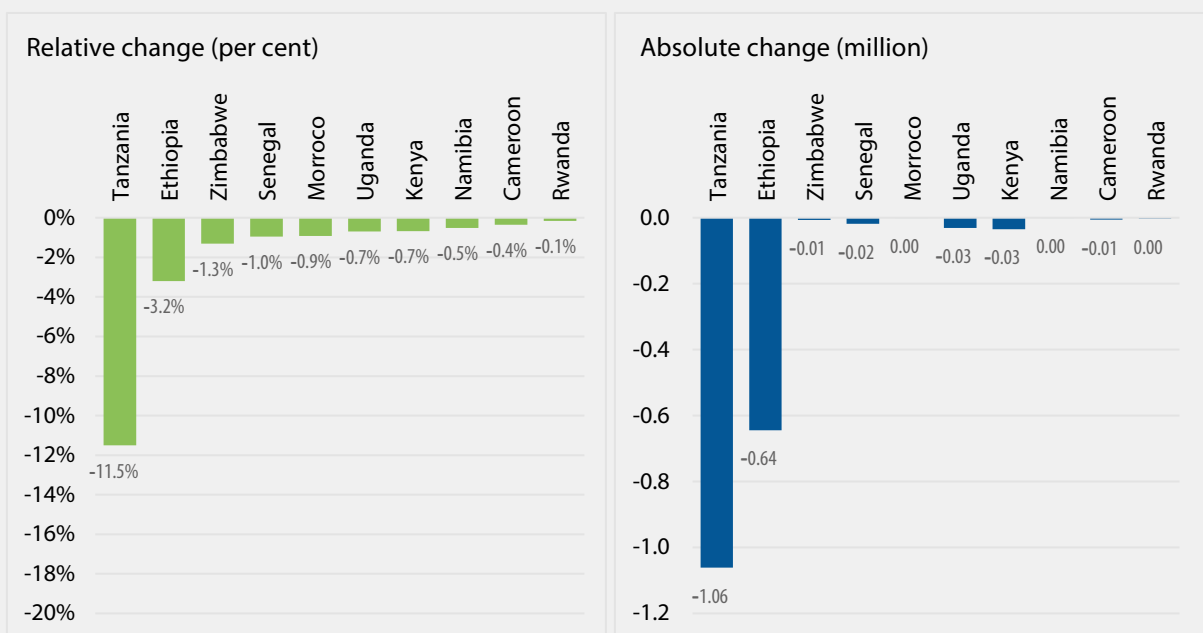
Africa's key challenge is to create decent jobs for its growing population. The continent now has 1.4 billion people, a figure projected to increase to 2.9 billion in 2050.<sup>15</sup> The size of the African labour force will thus continue to grow in the next 25 years, with the working-age population projected to increase from 224 million in 2030 to 730 million by 2050.

Unemployment rates in Africa have been rising since 2020, and 13 million young people are currently unemployed.<sup>16</sup> Labour markets are characterized by widespread informality, working poverty, underemployment, and low productivity. Per figures from the International Labour Organization, the informal economy now accounts for nearly 83% of employment.<sup>17</sup> Africa's population dividend may thus turn into a population bomb if poorly managed—and the continent's potential for a demographic dividend could turn into a demographic burden.

Africa has structurally high unemployment rates, which are attributable largely to inefficient education policies that result in skill deficits<sup>18</sup> and mismatches between skills provided by the education sector and those demanded by employers.<sup>19</sup> New social contracts in African countries could help address the mismatch and gaps in key skills while tackling poverty, inequality, and informal employment, achievable by, for example, improving the affordability, accessibility, and applicability of education.<sup>20</sup>

Implementing the AfCFTA could stimulate creation of decent jobs and reduce poverty and inequality for all countries in the sample<sup>21</sup> of an ECA study, though with varying impacts across countries (figure 1.13). And estimates indicate that countries such as Ethiopia and Tanzania could benefit from a high reduction in inequality. AfCFTA implementation is expected to benefit people living in urban areas more than people living in rural areas, and men more than women. Hence, effective and specific measures to integrate rural populations, and women and young people, in trade is critical, starting with the AfCFTA Protocol on Women and Youth in Trade, formalizing women traders and facilitating women's access to finance.

Figure 1.13 Projected African Continental Free Trade Area contributions to reducing poverty by 2045



Source: ECA (forthcoming)

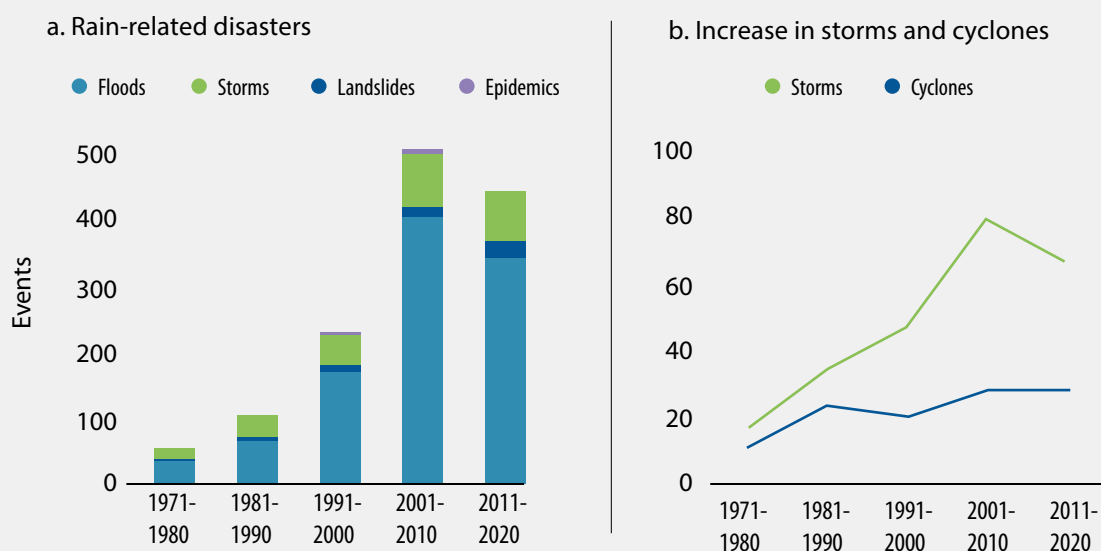
## THE RISKS ASSOCIATED WITH CLIMATE CHANGE ARE RAPIDLY RISING

Despite contributing only about 7% of global greenhouse gas emissions in 2020,<sup>22</sup> Africa is grappling with the adverse impacts of climate change, experiencing an annual temperature in 2019 that was 1°C higher than the long-term mean over 1981–2010.<sup>23</sup>

Africa has been increasingly vulnerable to climate disasters in recent years, with changing weather patterns leading to a greater number and impact of adverse weather events, such as droughts and floods. These events in turn reduce agricultural productivity and increase poverty and food insecurity. Climate-related disasters and extreme weather events have a major long-term impact on human welfare and economic development, including via migration.

Global warming has caused an increase in the frequency and intensity of extreme weather conditions globally, and Africa has been hit heavily. The Intergovernmental Panel on Climate Change predicts more frequent and intense rainfall in tropical Africa and increased droughts in parts of northern and southern Africa. As a result, the risk of floodings will rise further, even though rain-related natural disasters in Africa have already increased exponentially over the last 50 years (figure 1.14a).<sup>24</sup> With warming oceans, Africa has experienced four times as many storms and more than twice the number of cyclones as in the 1970s (figure 1.14b).<sup>25</sup>

Figure 1.14 Rising frequency and intensity of extreme weather events in Africa, 1971–80 to 2011–20



Source: Africa Center for Strategic Studies 2022.

Africa's share in the greenhouse gas emissions stock remains very low, but its share in new emissions has been rising. Specifically, Africa's share of world greenhouse gas emissions is forecast to rise to 12% by 2045, up from 7% in 2020.<sup>26</sup> With the AfCFTA seen as an unprecedented opportunity for Africa to industrialize, there are also concerns that it could further increase in Africa's greenhouse gas emissions.<sup>27</sup> This scenario and other developments, such as locking in carbon-intensive infrastructure, would undermine efforts to pursue the sustainability transition and to achieve net zero by 2050. Enhanced energy efficiency would not only facilitate fewer

***While Africa has contributed only marginally to the climate crisis, it must address the existential threat that the crisis presents and that impacts the continent disproportionately.***

emissions but also create new, and greener, jobs, and thus contribute to leaving no one behind, which is the central, transformative promise of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals.

While Africa has contributed only marginally to the climate crisis, it must address the existential threat that the crisis presents and that impacts the continent disproportionately. At the same time, the global pressure for decarbonizing the economy presents an opportunity for Africa, because it possesses minerals and other natural resources vital to this process. The ongoing megatrend thus positions Africa towards the path of prosperity, provided it implements the proper policies and frameworks.

## POLICY CHALLENGES AND RECOMMENDATIONS

African policymakers face critical challenges in striking a balance between supporting growth and scaling up strategic public investments on the one hand and maintaining fiscal sustainability and rebuilding fiscal buffers on the other. Unless economic growth is accelerated substantially, achieving lasting fiscal consolidation and taming public debt will remain elusive. Similarly, without adequate fiscal space and a stable macroeconomic framework, the necessary investment in climate-proof infrastructure, health, and education will not be undertaken either, and the SDGs will remain aspirational.

Though real GDP has been growing faster than population in the last two decades, that growth has been insufficient to prevent the number of people living in poverty from increasing by 30 million. Inadequate GDP growth is part of the explanation because half the African population lives in countries that, in the past decade, grew more slowly than the continent's average growth rate, including the big three—Egypt, Nigeria, and South Africa. Africa's experience shows that growth will not be enough to lift its population out of poverty. Job-rich growth, accompanied by effective redistribution policies, will be needed. Africa needs to achieve and sustain strong growth while making it inclusive and climate resilient.

To strengthen productive capacities and accelerate the green energy transition, countries would benefit from well-designed and adequately funded industrial policies. They should promote domestic research and development activities and support manufacturing and value addition, as well as investment in science and technology, while supporting carbon-reducing innovations and public and private investment. Strengthening innovation systems and absorptive capacities will generate new and sustainable sources of growth and employment, diversify export structures, and accelerate sustainable transitions.

***Innovative financial mechanisms to deal with the debt burden, such as debt-for-climate swaps and debt-for-nature swaps, can help governments with limited access to traditional grants or debt relief.***

Putting African economies on the path of high, inclusive, and sustainable growth requires mobilizing more domestic resources to support public goods and services. According to the IMF, numerous African countries have the capacity to boost their tax-to-GDP ratios by up to 9 percentage points through improved tax structures and more robust public institutions.<sup>28</sup> Building capacity, strengthening institutions, and promoting reforms to improve accountability, debt management, and national procurement systems will also be essential. Governments could also increase revenue with more progressive income and wealth taxes, while environmental taxation could broaden the tax base and spur technological innovation by promoting more environmentally friendly production. Non-tax revenue, including rents and royalties from sectors such as oil and mining, can be optimized through improved contractual arrangements with multinational firms. Finally, digital technologies can help reduce tax evasion and avoidance.

Fiscal resources can be also gained from improved efficiency of government spending, especially through enhanced effectiveness of subsidies and better targeted social protection programmes. Climate change policies can guide public spending through green budgets and broader fiscal policies, including carbon pricing, and the removal of fossil fuel subsidies. Governments should also step up their commitment to forging new social contracts to ensure equal opportunities for all while integrating employment and social protection. The education and health sectors can be a smart entry point for tackling all the SDGs.

Illicit financial flows hinder African development by depleting foreign exchange, diminishing domestic resources, and reducing citizens' trust in public institutions. These flows deprive the continent and its people of opportunities and exacerbate poverty and inequality. Initiatives to stem illicit financial flows involve, for example, enhancing African countries' institutional and regulatory ability to address them and advocating for policy changes at the national and continental levels. Halting illicit financial flows also requires cooperation from receiving financial centres across the globe.

African countries' capacity to manage future shocks or allocate resources for economic development is impeded by rising debt costs. Innovative financial mechanisms to deal with the debt burden, such as debt-for-climate swaps and debt-for-nature swaps, can help governments with limited access to traditional grants or debt relief. With the increasing number of countries at risk of debt distress, debt relief and restructuring measures are needed to avoid devastating debt crises with long-lasting threats to development. High and sustained growth will help attract investment and support countries' debt-reduction efforts. The AfCFTA can be a vital conduit for this purpose. Despite the immediate fiscal and political challenges that confront the continent, Africa should strengthen and accelerate implementation of the AfCFTA, which will be key to attracting investment and to boosting the continent's development.

A JST envisions a well-managed shift to a future where all job opportunities are environmentally sustainable and of high quality, where poverty is eliminated, and where communities are prosperous and resilient.<sup>29</sup> Africa must capitalize on the transition towards renewable energy and on the revitalized significance of critical minerals. These shifts present an opportunity for attracting FDI by harnessing the continent's rich natural endowment to localize supply chains and processing and manufacturing capabilities, thus enhancing job opportunities and incomes.

***A JST envisions a well-managed shift to a future where all job opportunities are environmentally sustainable and of high quality, where poverty is eliminated, and where communities are prosperous and resilient.***

## ENDNOTES

- <sup>1</sup> AfDB 2022.
  - <sup>2</sup> European Parliament 2022; OECD, CAF, and European Union 2022.
  - <sup>3</sup> AfDB 2024.
  - <sup>4</sup> SARB 2024.
  - <sup>5</sup> Bloomberg 2023.
  - <sup>6</sup> IMF 2023a.
  - <sup>7</sup> Financial Times 2023.
  - <sup>8</sup> Financial Times 2023.
  - <sup>9</sup> Financial Times 2023.
  - <sup>10</sup> UNCTAD 2023.
  - <sup>11</sup> AUC and OECD 2023.
  - <sup>12</sup> ECA calculations based on data from IMF (2023b).
  - <sup>13</sup> Rodrik 1991.
  - <sup>14</sup> Obwona 2001.
  - <sup>15</sup> ECA calculation based on UN data.
  - <sup>16</sup> ILO 2023.
  - <sup>17</sup> ILO 2022.
  - <sup>18</sup> AfDB 2021.
  - <sup>19</sup> ILO 2020.
  - <sup>20</sup> ECA 2023.
  - <sup>21</sup> The countries were Cameroon, Ethiopia, Kenya, Morocco, Namibia, Rwanda, Senegal, Tanzania, Uganda, and Zimbabwe.
  - <sup>22</sup> ECA and CEPII forthcoming. Carbon dioxide emissions account for about half of Africa's share of greenhouse gas emissions.
  - <sup>23</sup> Bedair 2023.
  - <sup>24</sup> Africa Center for Strategic Studies 2022.
  - <sup>25</sup> Africa Center for Strategic Studies 2022.
  - <sup>26</sup> ECA and CEPII 2021.
  - <sup>27</sup> ECA 2012, 2018.
  - <sup>28</sup> Gaspar, Mansour, and Vellutini 2023.
  - <sup>29</sup> 350Africa n.d.
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## CHAPTER 2:

# A JUST AND SUSTAINABLE TRANSITION FOR AN INCLUSIVE AND RESILIENT AFRICA

## KEY MESSAGES

- The triple planetary crises of climate change, biodiversity loss, and pollution pose unprecedented challenges and existential threats to humanity. These threats have triggered the global sustainability transition, a shift in sociotechnical systems towards sustainable production, consumption, and lifestyles.
- African countries can achieve their development objectives through low-carbon development paths driven by their vast and diverse renewable energy resources, but the transition away from fossil fuels needs to be gradual, as stated in the African Common Position on Energy Access and Just Energy Transition, led by the African Union. Closing the energy gap is a priority, impacting all aspects of sustainable development.
- A just and sustainable transition (JST) is a path for inclusive, low-carbon, and resource-efficient development where new technologies, infrastructure, and decisionmaking approaches replace the past and existing ones to address and correct their negative impacts.
- Because of the planetary crisis to which Africa only marginally contributed, the continent faces multiple and enormous environmental challenges. AJST in Africa must prioritize prosperity and human development while respecting global resource and carbon constraints.
- Achieving a JST requires systemic shifts from a growth-centred to a well-being-focused economy, from an extractive to a productive production system and circularity, from scarcity and excess to sufficiency, and from regulatory to collaborative governance.

## GLOBAL SUSTAINABILITY TRANSITION IS ONGOING—AFRICA CANNOT BE ON THE SIDELINES

The world faces a confluence of economic, social, and environmental crises with the potential to inflict unprecedented damage. Economic disparity has been growing within and between countries, leading to social unrest and conflict. Climate change and biodiversity loss pose existential threats to humanity. These challenges are far-reaching, requiring large-scale collective action and social solidarity.<sup>1</sup> They have triggered the global sustainability transition—a move towards sustainable production, consumption, and lifestyles. This chapter presents the analytical framework for the JST used in the rest of the report.

Given its complexity, a JST in any region needs to be approached from a multilevel perspective, with transitions viewed as interactions among landscape pressures (macro), change in regime structures (meso), and niche innovations (micro). Examples of landscape pressures are demographic trends, climate change, long-term macroeconomic trends, and changing land and water use patterns. Sociotechnical regimes, made up of core technologies evolving alongside social functions and market dynamics, are shaped by technologists, policymakers, businesses, consumers, and other stakeholders. Sociotechnical niches, operating at a micro level, represent spaces where new technologies and their uses are explored and advanced.

# A JUST AND SUSTAINABLE TRANSITION IN AFRICA MUST REFLECT ITS PRIORITIES...

Definitions of a JST that serves Africa's interests build on the global approach but contain important distinctive features. UNDESA (2023) defines a JST as a "process of transitioning towards a more sustainable society, economy, and environment in a fair and equitable manner." The African Development Bank defines a JST in Africa as a process of improving the lives of the most vulnerable while building low-carbon, resilient economies.<sup>2</sup> A broader interpretation of a JST that serves Africa's needs well defines it as an economic system encompassing environmental sustainability, social mitigation, and green industrialization. The desired result is not only sustainable energy generation, environmental protection, and social mitigation but also a wider green industrial transformation that will create decent jobs for young people and allow Africa to reap adequate payoffs on its natural resources.

The JST in Africa will be a longer-term systemic change to a low-carbon and climate-resilient economy, resulting in marked poverty and inequality reduction. The sustainability part of the change will need to be driven by efficient natural resource use, sustainable infrastructure development, low-carbon industrialization, and resilient agroecological systems. Broadly, a just transition aims to achieve a socially just world while preserving ecosystems, preventing excessive global warming, and disconnecting economic growth from rising resource extraction and consumption. Securing a fair share in global value chains and creating decent jobs for growing youth populations will require transitioning from an extractive-economy model characterized by rent maximization to a productive-economy model anchored in circularity. This aspect is a key part of a JST in the context of the cascading impacts of climate change. Further, Africa's JST must be Africa-led.

A successful JST in Africa needs to reform governance and establish institutional environments to facilitate low-carbon investment and social justice. Specifically, the JST's effective management will require collaborative governance that would, in addition to the government, involve other community stakeholders, including the private sector and the media. Moreover, the JST will require African governments to pursue different industrialization paths from those undertaken in other industrialized world regions with no carbon and natural resource constraints. As this report demonstrates, the innovations across all sectors that will support the JST could also become key drivers of the next phase of Africa's development.

A distinguishing feature of the JST concept specific to Africa is the emphasis on inclusive and green industrialization. The JST approach adopted in this report combines upstream industrialization with social and environmental measures, focusing on sustainable energy generation and climate resilience. This is broader than the concept of the Just Energy Transition (see box 3.1 in chapter 3). Despite the numerous continental and national efforts to promote industrialization, Africa's industrial performance and its share in global trade manufacturing value added is very low. A key reason is that developing a competitive manufacturing sector often requires targeted policy interventions, as the experience of East Asia has illustrated. In Africa, however, successful industrial policy implementation has been hampered by weak administrative and technological capabilities, as well as poor incentive designs.

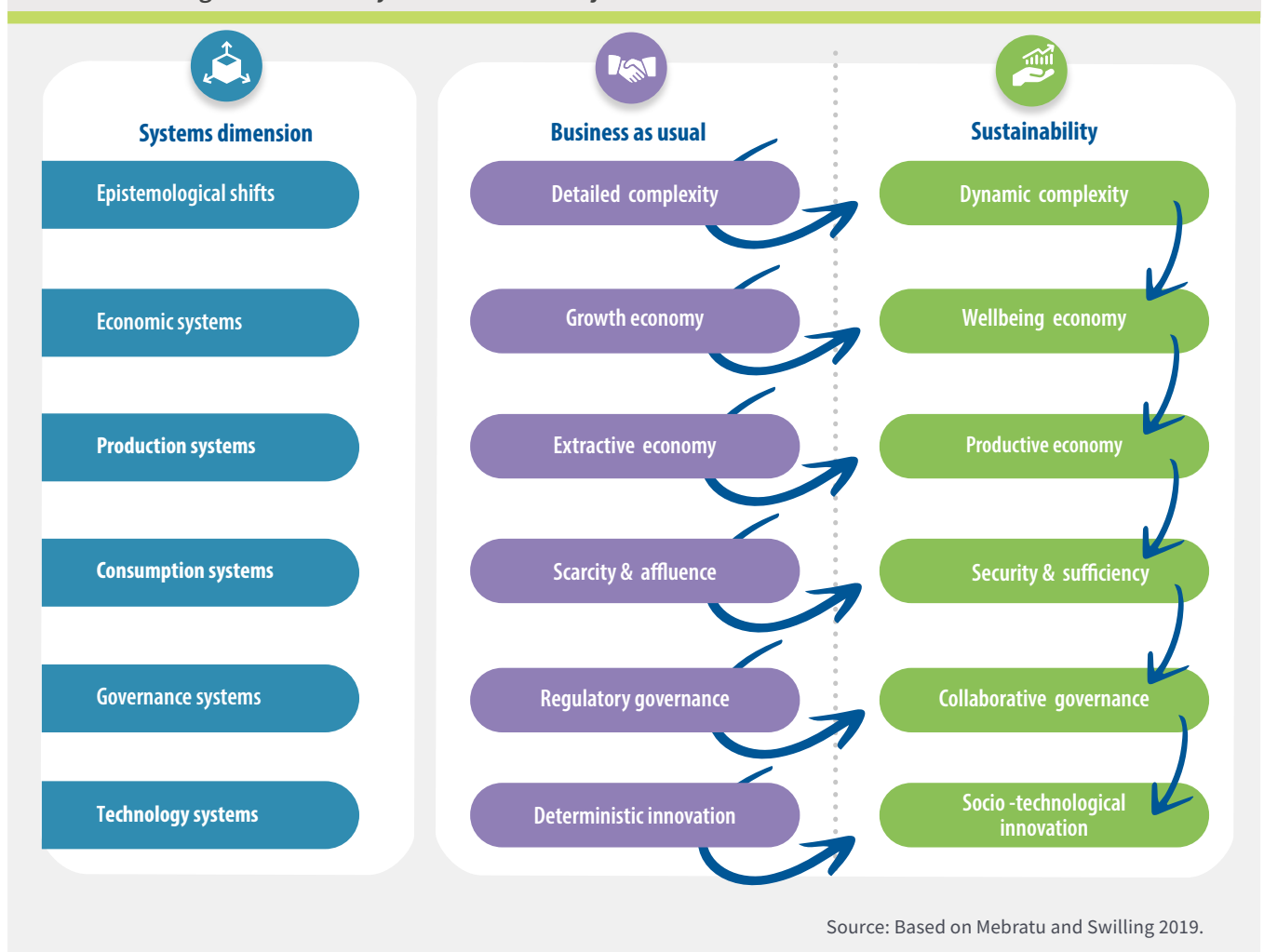
The JST aims to overcome these challenges with a transition framework that places low-carbon industrialization and inclusive and efficient resource use at its core. While each country's framework will vary, fundamental systemic shifts are expected in all countries. The analytical framework (figure 2.1) captures the fundamental systemic shifts, which are:

- **From detailed to dynamic complexity.** The socioeconomic transformation in the 21st century needs to be approached through dynamic complexity rather than the detailed complexities of linear cause-and-effect chains. Managing dynamic complexity is therefore key to developing African narratives and to driving JSTs in Africa.

- **From growth to well-being.** Overemphasizing growth has led to numerous social and ecological challenges. Economic development policy for the JST needs to focus on a well-being economy, which reconciles growth with human and ecosystem well-being.
- **From an extractive to a productive economy.** Using and managing natural capital sustainably are crucial for JSTs. Many African countries have largely extractive economies, making them especially vulnerable to shocks. A transition to productive economies anchored in circularity would help countries gain resilience.
- **From scarcity and affluence to security and sufficiency.** In Africa, many people lack basic services, while a small urban population mirrors the wasteful consumption patterns of industrialized countries. JSTs in Africa should prioritize securing basic services and achieving sufficiency for the majority, in order to raise overall societal well-being.
- **From regulatory to collaborative governance.** As economies have become more complex and globalized, there has been a shift from a single nation-state regulatory authority to a relational state that facilitates multiple development partnerships.
- **From deterministic innovation to sociotechnological regimes.** This shift combines technological and socioinstitutional innovations. This is crucial for overcoming barriers to change, most of which are institutional rather than technological.

Managing the above systemic transitions and their interactions effectively is vital for progress towards JSTs. A key step is to overcome the prevailing institutional barriers, which often treat environmental and social factors as external add-ons to growth objectives.

Figure 2.1 Main systemic shifts for a just and sustainable transition in Africa



## ... BUT IT MUST ALSO CONSIDER GLOBAL RESOURCE AND CARBON CONSTRAINTS

The convergence of economic, social, environmental, and political crises in the 21st century has created unprecedented challenges. African countries' capacity to effectively address them is severely limited by global resource and carbon constraints.<sup>3</sup>

### GLOBAL RESOURCE CONSTRAINTS

The 20th and 21st centuries have witnessed rapid economic growth and development linked to industrialization and globalization, coupled with much higher resource extraction and related environmental degradation. According to UN data, the global population more than doubled between 1970 and 2020, gross domestic product (GDP) quadrupled, and annual global material extraction tripled—and without substantial change, it is projected to reach 190 billion tonnes by 2060. This underscores the need for enhanced resource productivity and the decoupling of economic growth and well-being from resource use and pollution.

The material footprint generated by various regions and subgroups is highly uneven, with Africa contributing the least. In 2020, high-income countries' material footprint<sup>4</sup> of around 24 tonnes per person was six times that of low-income countries. The same difference was recorded for North America relative to Africa. Upper-middle-income countries dominated the global material footprint, accounting for about half of the total in 2020. Per capita extraction also rose fastest for this group, more than doubling between 2000 and 2020 (figure 2.2). This rise is driven by efforts to develop infrastructure in industrializing countries, as well as outsourcing of material-intensive production by higher-income countries to them.<sup>5</sup> These dynamics are also expected to impact Africa in the coming years and decades.

Because of the planetary crisis, to which Africa only marginally contributed, but also given Africa's large dependence on natural resources, the continent faces enormous environmental challenges such as land degradation, desertification, and deforestation.<sup>6</sup> Per capita natural capital is declining, and current resource depletion rates could lead to a 10% drop in Africa's GDP by 2030. By 2050, millions of people could face increased exposure to water pollution and food insecurity, and coastal erosion risks could affect millions more. Africa's economies demand more freshwater, while water quantity and quality are diminishing owing to overexploitation, climate change, and pollution. Africa's inland and marine fisheries are also threatened by overexploitation from illegal and unregulated fishing. Its rich biodiversity, essential for ecosystem services, is at risk from illegal wildlife trade, pollution, forest loss, climate change, and invasive species. In 2023 the continent hosted a quarter of the world's animal and plant species but faced the highest extinction rate in the world.<sup>7</sup>

Africa cannot industrialize using only fossil fuels, given the planetary crisis, but in the medium term, the continent will use both renewables and non-renewables to close its energy gap. Addressing global resource constraints requires decoupling economic development from disproportionate resource use and environmental impacts by deploying more resource-efficient and renewable production technologies.<sup>8</sup> Embracing circular-economy business models and leapfrogging technologies can generate large resource and economic savings, while driving the gradual transition to renewables and clean growth.

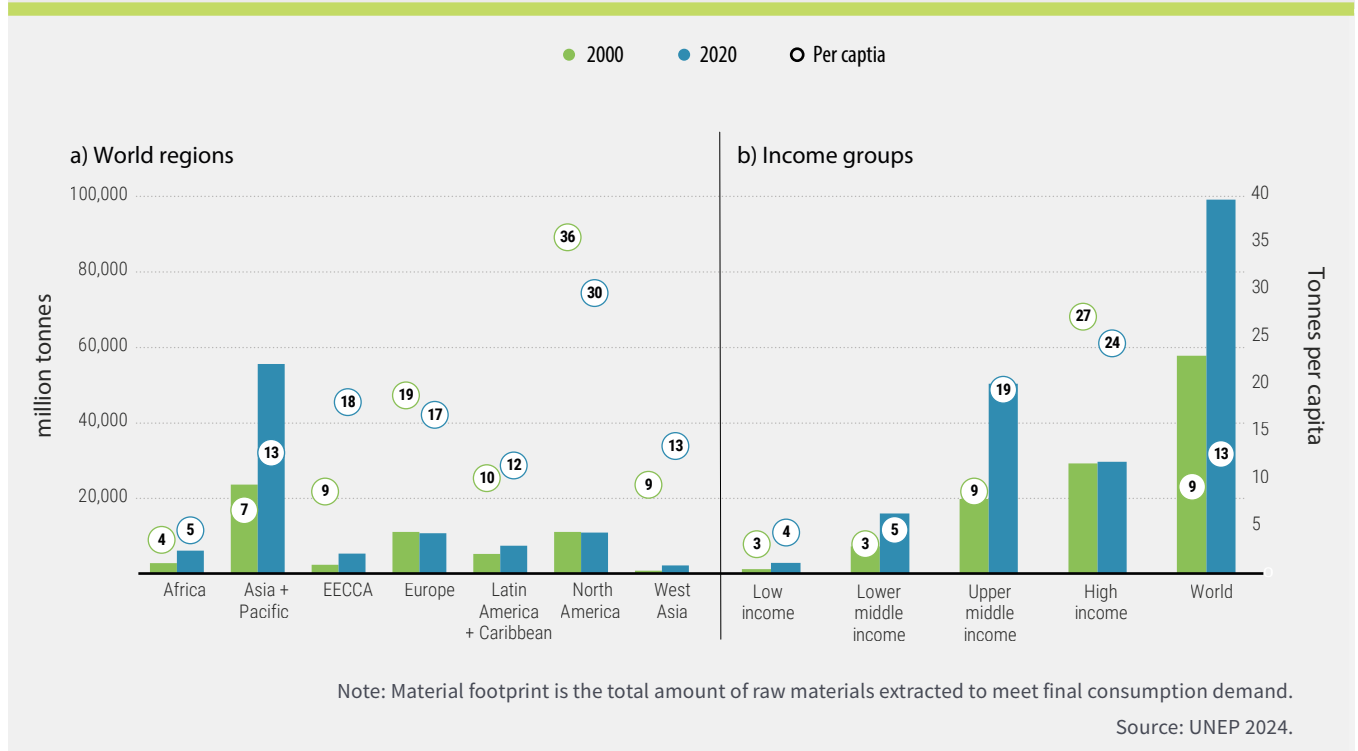
### GLOBAL CARBON CONSTRAINTS

The International Panel on Climate Change (IPCC) has stated that human activity is the cause of the observed marked increase in greenhouse gas concentrations since 1750.<sup>9</sup> Global warming has already adversely affected natural and human systems, leading to harmful changes in land and ocean ecosystems and the services they

provide.<sup>10</sup> Box 2.1 discusses the various scenarios on greenhouse gas emissions and their implications for global warming.

Africa is expected to face severe impacts from climate change, tied particularly to the availability of arable land and freshwater. The region's vulnerability is exacerbated by its limited adaptive capacity.<sup>11</sup> In a global scenario with low mitigation efforts, Africa will have to grapple with the adverse effects of rapidly increasing temperatures and associated extreme events during a critical period for its development (see box 2.1).<sup>12</sup> A future with high climate mitigation at the global level could bring substantial benefits to, and justice for, Africa.<sup>13</sup>

Figure 2.2 Material footprint, by world regions and by income group, 2000 and 2020

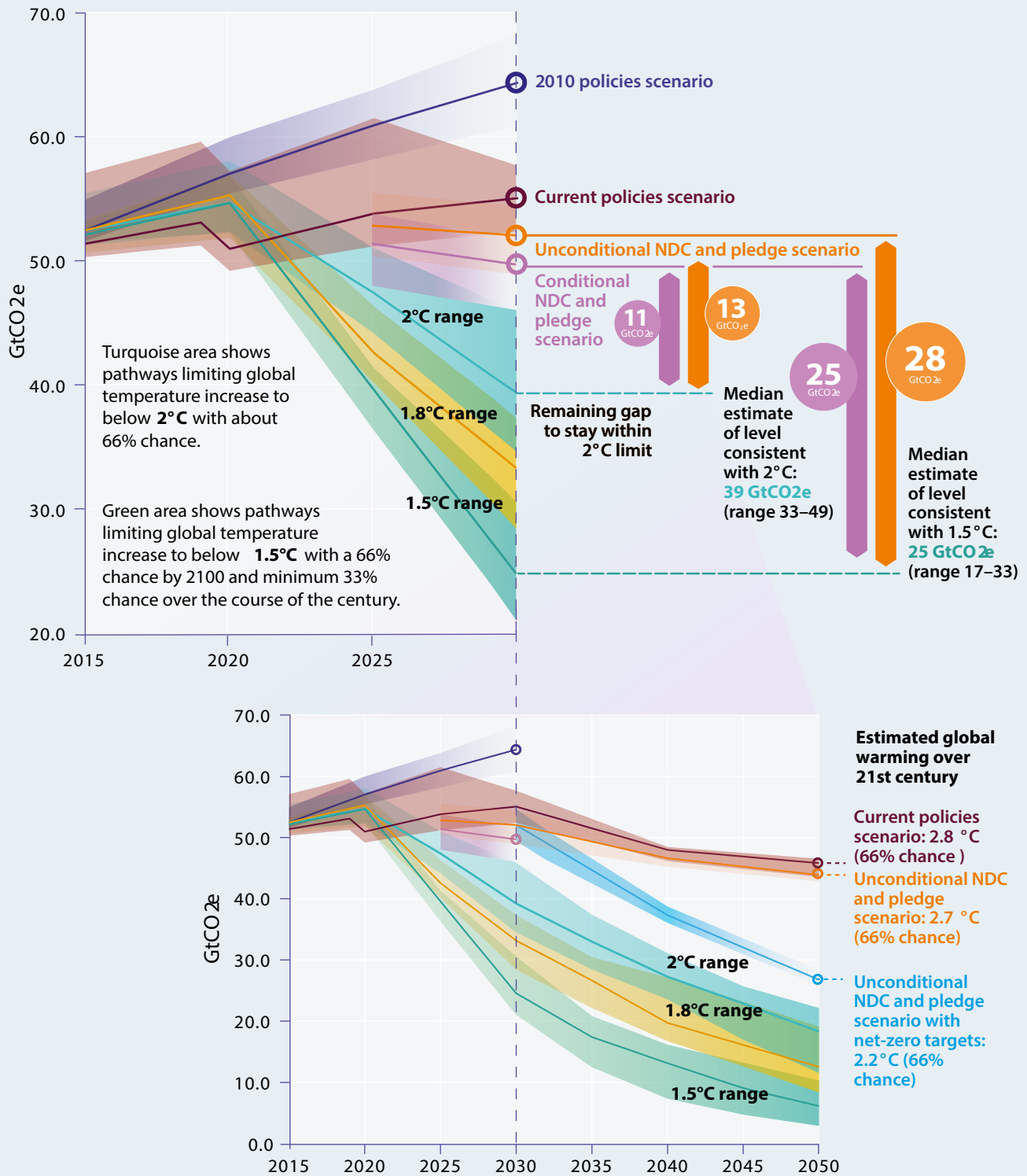


Although a marginal contributor to global emissions, Africa is under pressure to mitigate climate change risks while aspiring to rapidly accelerate its development.<sup>14</sup> African countries can achieve their development objectives by promoting low-carbon development paths, driven by the region's abundant and diverse renewable energy resources, but the transition needs to be gradual, as stated in the African Common Position on Energy Access and Just Energy Transition. Over the longer term, the economic, social, and environmental appeal of Africa's abundant renewable energy, which is becoming more affordable,<sup>15</sup> makes it a compelling option for the continent.

### Box 2.1 Global greenhouse gas emissions and warming scenarios

Fully implementing the unconditional Nationally Determined Contributions (NDCs) in the Paris Agreement would lead to a projected 2.6°C rise in the average global temperature over pre-industrial levels by 2100, a larger increase than the agreement aims for.<sup>16</sup> Box figure 1 illustrates the remaining emissions gaps under scenarios related to the aim of limiting the increase in the average global temperature to 1.5°C and 2.0°C through the fulfilment of conditional and unconditional NDCs. It reveals a remaining gap of 12 gigatonnes of carbon dioxide equivalent (GtCO<sub>2</sub>e) to stay within the 2.0°C limit through the fulfilment of conditional NDCs, increasing to 15 GtCO<sub>2</sub>e through the fulfilment of unconditional NDCs. Similarly, staying below the 1.5°C limit through the fulfilment of conditional NDCs implies an emissions gap of 20 GtCO<sub>2</sub>e, rising to 23 GtCO<sub>2</sub>e under the unconditional NDC scenario.

Box figure 2.1 Global greenhouse gas emissions under different scenarios and the emissions gap in 2030, 2015–30



Note: The emissions gap is the gap between the estimated total global greenhouse gas emissions resulting from full implementation of the NDCs and the total global greenhouse gas emissions from least-cost scenarios that keep global warming to 2.0°C, 1.8°C, or 1.5°C, with varying levels of likelihood (UNEP 2022).

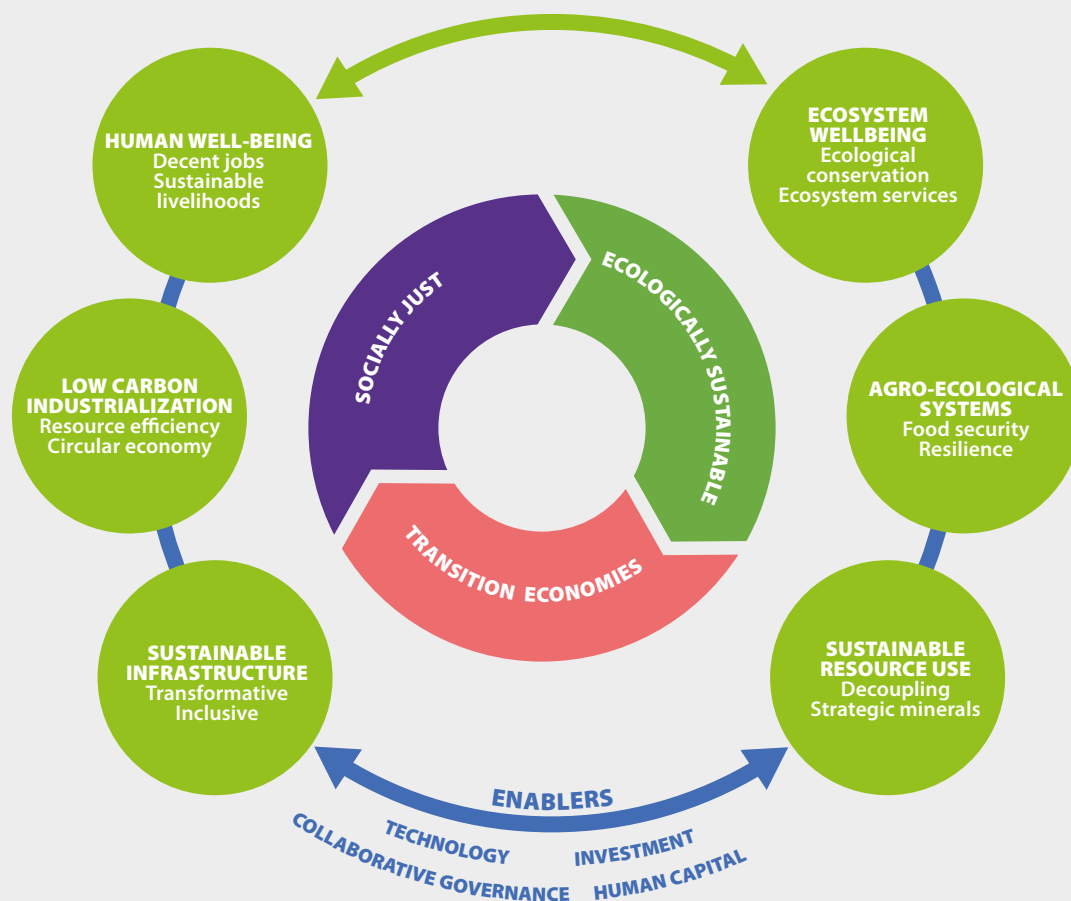
Source: UNEP 2023.

Box table 1 Estimated global warming implications under different scenarios and likelihoods

Scenario	Estimated likelihood of various temperature increases (median and range)		
	66%	50%	90%
Current policies	2.8 °C (range: 1.9 - 3.3°C)	2.6°C (range: 1.7 - 3.0°C)	3.3°C (range: 2.3 - 3.9°C)
Unconditional NDCs	2.6 °C (range: 1.9 - 3.1°C)	2.4°C (range: 1.7 - 2.9°C)	3.1°C (range: 2.3 - 3.7°C)
Conditional NDCs	2.4 °C (range: 1.8 - 3.0°C)	2.2°C (range: 1.7 - 2.7°C)	2.8°C (range: 2.2 - 3.5°C)
Unconditional NDCs and long-term net-zero targets	1.8 °C (range: 1.8 - 2.1°C)	1.7°C (range: 1.7 - 1.9°C)	2.1°C (range: 2.0 - 2.5°C)
Conditional NDCs and long-term net-zero targets	1.8 °C (range: 1.7 - 1.9°C)	1.7°C (range: 1.6 - 1.8°C)	2.0°C (range: 2.0 - 2.3°C)

Box table 1 provides estimated global warming implications over the 21st century under different scenarios and likelihoods. If countries maintain current policies, there is a 90% likelihood of 3.3°C warming. If all countries fulfil their unconditional NDCs, there is a 90% chance of 3.1°C warming, and if countries also fulfil their conditional NDCs, there is a 90% chance of 2.8°C warming. Together with long-term net-zero targets, meeting unconditional NDCs would offer a 90% chance of limiting global warming to 2.1°C, while meeting conditional NDCs would offer a 90% chance of limiting global warming to 2.0°C.

Figure 2.3 Key dimensions of the framework for a just and sustainable transition in Africa



Source: Mebratu and Swilling 2019.

# KEY DIMENSIONS OF THE FRAMEWORK FOR JUST AND SUSTAINABLE TRANSITION IN AFRICA

Africa has a unique opportunity to be at the centre of the ongoing global transformation by transitioning to inclusive, low-carbon, and resource-efficient continent. Major societal transformations—as with the ongoing one—entail replacing the existing parts of a societal system via technological, economic, political, and cultural restructuring.<sup>17</sup> To gain a key place in this transformation, Africa must proactively seize emerging opportunities and leverage resource endowments. The main dimensions of the JST framework in Africa (figure 2.3) are:

- **Human well-being.** The framework prioritizes improving human well-being—that is, improving the well-being of people today without jeopardizing the well-being of future generations—as the primary societal objective. This requires using alternative indicators of development progress while recognizing the role of GDP as a measure for economic productivity.<sup>18</sup>
- **Ecosystem well-being.** The natural environment is connected to a wide range of social, political, and economic factors and is thus key for human well-being and the JST.
- **Low-carbon industrialization.** Africa has the legitimate aspiration—and need—to industrialize its economy,<sup>19</sup> while achieving a JST requires relatively low-carbon industrialization.<sup>20</sup> Africa's industrial transformation needs to balance these goals.<sup>21</sup>
- **Agroecological systems.** Ensuring food security for every community is a key aspect of JSTs in Africa. The International Panel of Experts on Sustainable Food Systems calls for transitioning to agroecological production systems that provide nourishment while preserving the environment and ensuring its resilience.<sup>22</sup> This requires a holistic approach to agriculture that incorporates agroecology, agroforestry, and conservation agriculture, while building on indigenous and traditional knowledge.<sup>23</sup>
- **Sustainable infrastructure.** Developing sustainable infrastructure systems is crucial to a JST in any country, but especially in Africa, given its vulnerability to the impact of climate change and the vast infrastructure gap.
- **Sustainable resource use.** African development that relies solely on raw material extraction and export depletes ecosystem services. Resource extraction activities, such as mining and forestry, should be environmentally and socially responsible and linked with new value-adding manufacturing in Africa and plugged into global value chains.

Effective implementation of the framework requires critical enablers, such as developing and transferring of low-carbon and resource-efficient technologies, facilitating adequate public and private investment flows, developing human capital with the required skill sets, and adopting a transition governance system that ensures inclusive participation.

JST implementation in Africa will depend on countries' effective strategies for pursuing green technologies and enhancing their frontier-technology readiness. As the fourth industrial revolution continues to spread across the globe, Africa is adapting to this new economic reality. New digital technologies and practices can lead to structural changes in sociotechnical systems, promoting more sustainable production and consumption patterns. For example, the joining of internet communication technology and renewable energy represents the latest convergence of communication technology and energy systems and could support Africa's leapfrogging in this

***JST implementation in Africa will depend on countries' effective strategies for pursuing green technologies and enhancing their frontier-technology readiness.***




critical area. At the same time, the continent will need to reduce the adverse effects of emerging disruptive technologies. For JST success, it will also be crucial to include social fairness, policy reform, and collaborative action alongside technological transition to attain a sustainable future.

The success of efforts to implement the JST and to cope with climate change will also depend on closing the skill gaps in this area. In Africa, unlike in other regions, the size of the working-age population and its share in the total population is still rising. The JST will need a population that is better educated, healthier, technologically savvy, and ready for the changing world of work, especially in energy and other strategic sectors. However, the overall gap in human capital between Africa and the rest of the world has widened slightly over the years. Further, analysis of Africa's skill landscape points to a fragmented system: pockets of excellence alongside more than 30% of the population ages 15 and older in Africa (excluding North Africa) lacking basic literacy. According to the World Bank, high-skilled employment accounts for only 6% of the total, compared with 24% in the rest of the world.

It is critical to treat all the foundational dimensions of the JST as interconnected systems of transformational change, paying attention to their dynamic interaction and cross-influences. Effectively managing these interactions would result in transition economies that are becoming productive, ecologically sustainable, and socially just.

***The JST will need a population that is better educated, healthier, technologically savvy, and ready for the changing world of work, especially in energy and other strategic sectors.***

## ENDNOTES

- <sup>1</sup> Tong et al. 2023.
  - <sup>2</sup> AfDB 2022.
  - <sup>3</sup> Mebratu and Swilling 2019, UNDP 2021.
  - <sup>4</sup> The total amount of raw materials extracted to meet final consumption demand.
  - <sup>5</sup> UNEP and IRP 2018.
  - <sup>6</sup> UNEP 2016.
  - <sup>7</sup> CSE 2023.
  - <sup>8</sup> IRP 2019.
  - <sup>9</sup> IPCC 2021.
  - <sup>10</sup> IPCC 2018.
  - <sup>11</sup> Niang et al. 2014 ; UNEP 2016.
  - <sup>12</sup> AUC 2015.
  - <sup>13</sup> UNEP 2016.
  - <sup>14</sup> AESA 2020.
  - <sup>15</sup> IRENA 2023.
  - <sup>16</sup> UNEP 2022.
  - <sup>17</sup> Genov 1999.
  - <sup>18</sup> Fioramonti 2017; UNDP 2020.
  - <sup>19</sup> APP 2016.
  - <sup>20</sup> Mebratu 2019.
  - <sup>21</sup> UN Inter-agency Task Force on Financing for Development 2023.
  - <sup>22</sup> Frison 2016.
  - <sup>23</sup> FAO 2017.
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# CHAPTER 3:

## DRIVERS OF A JUST AND SUSTAINABLE TRANSITION IN AFRICA

### KEY MESSAGES

- Africa has a large share of global reserves of strategic minerals and has the resources the world needs for the energy and digital transitions. It should aim to avoid the “resource curse<sup>1</sup>” and leverage the global transition momentum for its sustainable development. A key area of focus is job creation: studies have documented the strong job-creating potential of investments in renewables or energy flexibility.
- African countries need to implement complementary policies to avoid the resource curse and leapfrog development. Key elements include supporting technological innovation and corresponding upskilling, exploring additional resources with data and technology, and using the African Continental Free Trade Area (AfCFTA) for value addition.
- Given the cross-border and cross-jurisdictional nature of climate change and ecological degradation, a precondition for implementing a just and sustainable transition (JST) is collaborative governance by all government levels, including international organizations, and by other key stakeholders such as firms, nongovernmental organizations, and citizens.
- When pursuing a just energy transition, Africa needs to reflect on its unique circumstances and prioritize ending energy poverty and reducing inequalities by embarking on a cleaner energy path and low-carbon industrialization. This approach is consistent with the African Common Position on Energy Access and Just Energy Transition, led by the African Union (AU).
- The AU, with regional institutions, should formulate a policy on critical-mineral use to drive Africa’s JST. Its seat at the Group of 20 (G20) helps amplify Africa’s voice on this and other key issues affecting the continent.

### LEVERAGING THE GLOBAL SUSTAINABILITY TRANSITION TO LEAPFROG DEVELOPMENT

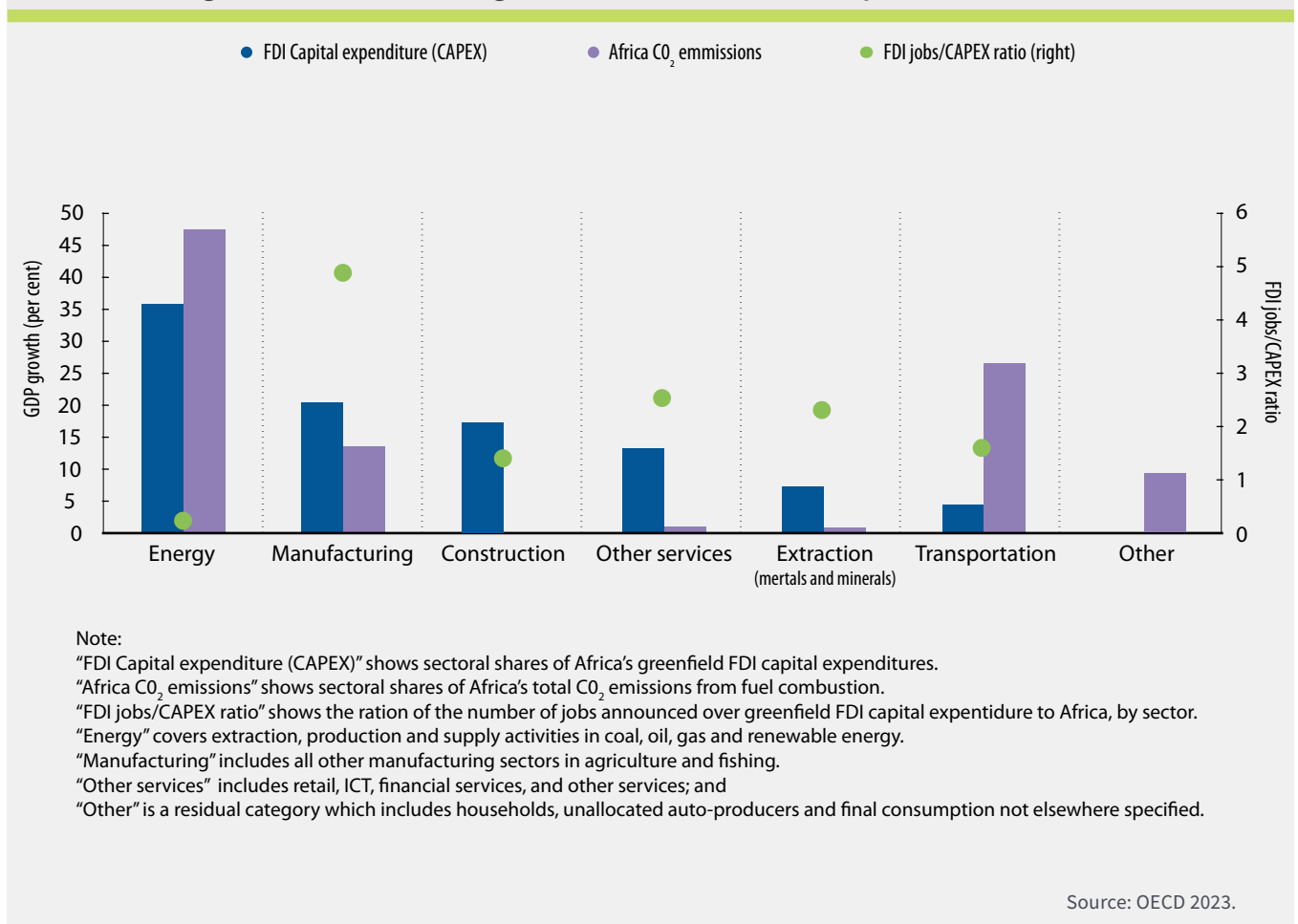
**W**ith energy security and sustainability as key objectives and the core element of the global sustainability transition, the energy sector is undergoing a major transition. This is seen in efforts to make progress on net-zero targets and to increase clean energy investment in advanced economies, coupled with pressures on developing countries, including those in Africa, to decarbonize. In Africa, however, this is not accompanied by adequate investment in renewables. In 2003–20, the energy sector received the largest (36%) share of greenfield foreign direct investment, the majority of which went to the coal, oil, and gas industry (30%), with renewable energy representing only 6% of the total (figure 3.1). While global renewable energy investment has accelerated, Africa’s share currently accounts for less than 2%. The International Energy Agency (IEA) estimates that achieving full access to clean modern energy in Africa by 2030 would require investment of \$25 billion a year in 2024–30, with private capital covering 60% of such investment.

Given its natural resources and early stage of development, Africa has the potential to leapfrog to an inclusive, low-carbon, and resource-efficient economy in the medium term. Africa’s endowment of natural resources, especially renewable energy, could fast-track not only Africa’s but also the planet’s sustainability. Recognizing this, the

African Progress Panel in 2015 underlined that the world would benefit from Africa achieving “rapid socioeconomic development without a concomitant increase in GHG [greenhouse gas] emissions.”<sup>2</sup> The African Common Position on Energy Access and Just Energy Transition differs, however, and warns against an abrupt exit from fossil fuels.

For Africa to influence the global sustainability discourse, it should refocus its narrative on its key and positive role in the global trend towards sustainability. For decades, Africa’s position and engagement in the sustainable development discourse have been largely overlooked at the expense of perspectives in the developed world, including the Washington Consensus. In recent decades, climate change—caused mainly by unsustainable consumption and production in developed countries—has had additional adverse impacts on Africa’s development. Yet with emerging markets’ rising weight in the global economy, notably that of China, Brazil, and India, and Africa’s share in the global population, the voices and perspectives of developing regions, including Africa, must be considered. Africa has key resources that the rest of the world lacks, such as youth and critical (or strategic) minerals, and needs to leverage those for a JST.

Figure 3.1 Greenfield foreign direct investment in Africa, by sector, 2003–20



The African sustainability narrative needs to be more forward looking, emphasizing its critical, positive role in the global sustainable transition. The Nairobi Africa Climate Summit Declaration<sup>3</sup> underscored that Africa—having the world’s youngest workforce but one with entrepreneurial spirit—possesses the potential and the ambition to meaningfully contribute to global solutions to climate change. The political declaration by the Nairobi Africa Climate Summit, together with a recognition of the major drivers of Africa’s contribution to global sustainability, should be the basis for an African JST narrative.

## THE JUST ENERGY TRANSITION IN AFRICA NEEDS TO ADDRESS ENERGY POVERTY

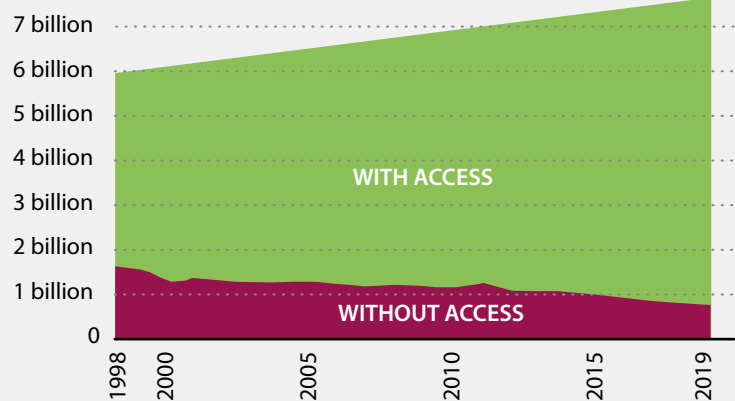
The element central to major social transformations is the transition in energy systems. Renewable energy systems have increasingly become the backbone of energy systems in the 21st century and thus present the core of the sustainability transition. The joining of internet communication technology and renewable energy thus represents the latest convergence of communication technology and energy systems.

Despite steady increases over the past few decades in energy access globally, wide variations in energy access prevail within and across countries and regions. Most people without access to electricity are in Africa—600 million people in the region still lacked access in 2021 (figures 3.2 and 3.3).<sup>4</sup> Wide gaps in access prevail in rural areas especially, where less than 27% of the population has access to energy. According to World Bank data,

average electricity consumption per person in Africa, excluding North Africa, is less than 500 kilowatt-hours (kWh) a year, a tiny fraction of the roughly 13,000 kWh consumed in North America. The IEA estimates that, with the current electrification rate and accounting for population growth, 565 million Africans will still lack access to electricity by 2030.<sup>5</sup> The flip side of this inequality is that with nearly one fifth of the world's population today, Africa accounts for less than 3% of the world's energy-related carbon dioxide emissions and has the lowest emissions per capita.

The 2022 AU Summit in Niamey linked energy and industrialization, with a focus on inclusivity and sustainability. The summit underscored Africa's renewed commitment to industrialization as a key pillar for attaining the continent's goals articulated in Agenda 2063 and Agenda 2030. The Summit also emphasized that in the current context of intertwined crises, past industrialization successes in Europe, in the Americas, and more recently in Asia cannot be replicated in Africa. Forging its own industrialization path that prioritizes sustainability and inclusion, Africa should leverage its rich and diverse natural resources while embracing technological advances.

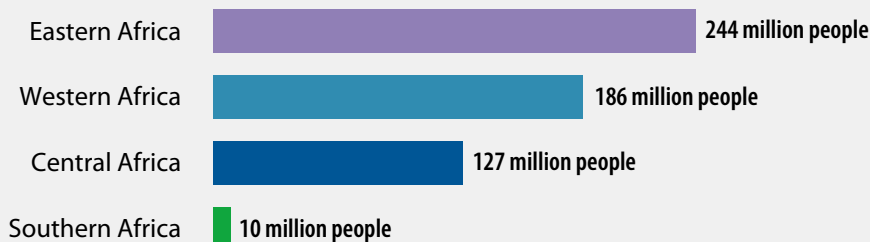
Figure 3.2 Number of people with and without electricity access globally, 1998–20



Note: Having access to electricity is defined as having an electricity source that can provide very basic lighting and charge a phone or power a radio for four hours a day.

Source: World Bank.

Figure 3.3 Population in Africa (excluding North Africa) without access to electricity, 2021



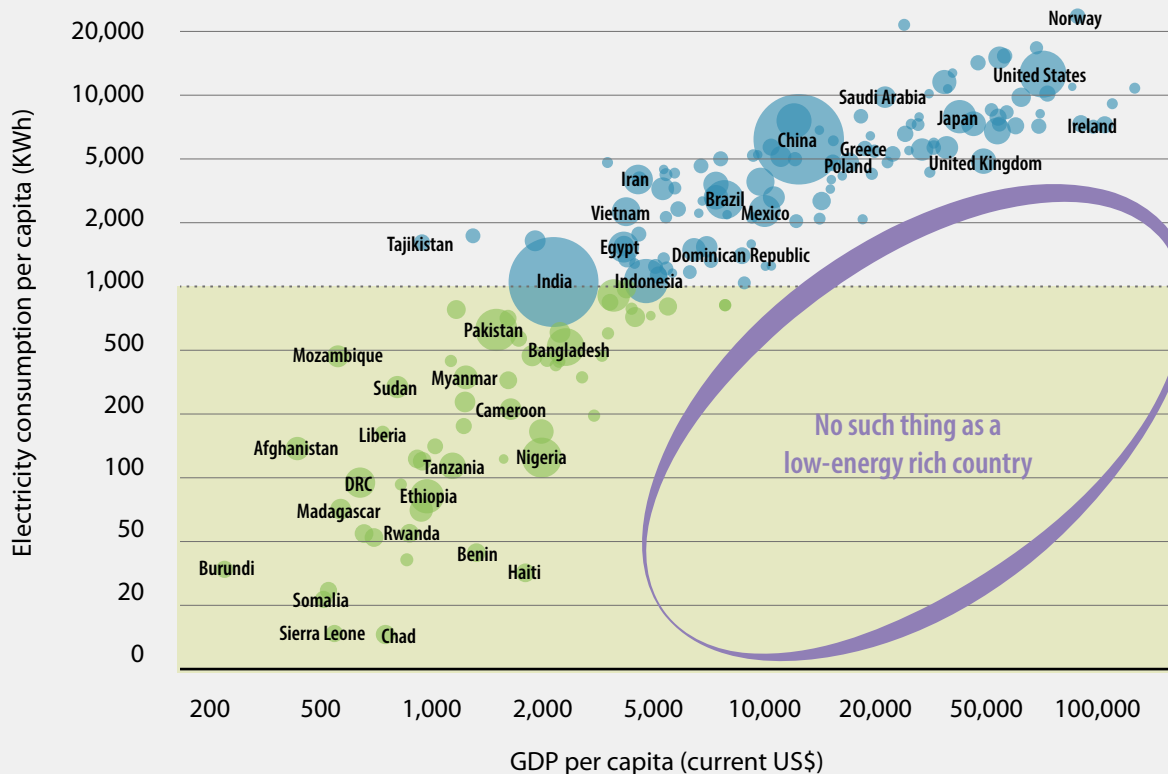
Source: IRENA.

The AU-led African Common Position on Energy Access and Just Energy Transition recognizes that Africa's just energy transition path must differ from that in other regions. While advanced economies can prioritize rapid decarbonization, Africa needs to balance this goal with quickly closing the gap in access to electricity. Energy poverty has been recognized as a key obstacle to achieving Agenda 2063, and the importance of leaving no one behind is clearly articulated in the Common Position. With a growing population among which 600 million people already lack electricity, Africa cannot simply rapidly exit from fossil fuels. To meet the continent's rising energy demands, the shift to renewables needs to be gradual, while natural gas, hydrogen, and nuclear energy will still have a key role over the medium term (figure 3.4).

**Despite its potential, Africa accounts for less than 3% of the world's installed renewable-based electricity generation capacity.**

Apart from hydropower, renewables such as solar, wind, geothermal, and modern bioenergy contribute only marginally to Africa's energy mix (figure 3.6). Africa's energy landscape has rich, highly diverse energy resources, from hydrocarbons to renewables. Still, the current energy mix in Africa relies mainly on burning coal, oil, and traditional biomass. Despite its potential, Africa accounts for less than 3% of the world's installed renewable-based electricity generation capacity.<sup>6</sup> This represents a missed opportunity for the continent because renewables can promote job creation. Investing in energy transition technologies creates close to three times as many jobs as fossil fuels for each \$1 million of spending.<sup>7</sup> With the added investment stimulus under the Transforming Energy Scenario of the International Renewable Energy Agency (IRENA), every \$1 million invested in renewables or energy flexibility would create at least 25 jobs, while each \$1 million invested in energy efficiency would create about 10 jobs.<sup>8</sup>

Figure 3.4 Electricity consumption and income per capita, 2021

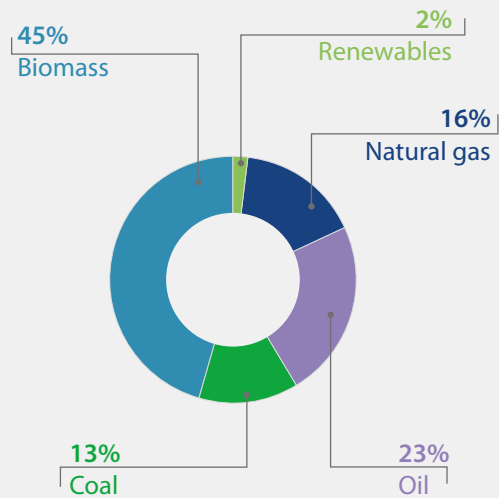


Source: Moss, T (2023) based on data from IEA and World Bank Data (2021).

In recent years, renewable energy deployment has grown, with renewables-based generation capacity on the continent almost doubling in 2010–20, with more than 26 gigawatts (GW) of renewables-based generation capacity added. The largest addition was in solar energy (figure 3.6). Several programmes are dedicated to developing renewables in Africa. Much of the growth has been driven by large projects, particularly new utility-scale hydropower and solar photovoltaic projects. Southern Africa led total renewable generation capacity in 2020 with 17 GW, or around a third of Africa’s total, followed by North Africa with 12.6 GW, a quarter of the total. Since 2016, Morocco has been home to the Noor Ouarzazate Solar Complex, the largest concentrated solar power plant in the world.

Still, numerous African countries have large deposits and ongoing projects in non-renewable energy resources, including coal, petroleum, and natural gas that are critical for meeting near-term energy needs. The International Monetary Fund classifies more than half of African countries as resource intensive—that is countries where non-renewables account for more than a quarter of exports—particularly those in West Africa (figures 3.7 and 3.8).<sup>9</sup> While the transition to sustainable energy, through development of renewable sources, is vital for global sustainability and for Africa’s competitiveness, in the medium term, non-renewables will continue to account for large energy shares in Africa and globally (box 3.1), an aspect recognized and emphasized in Africa’s Common Position.

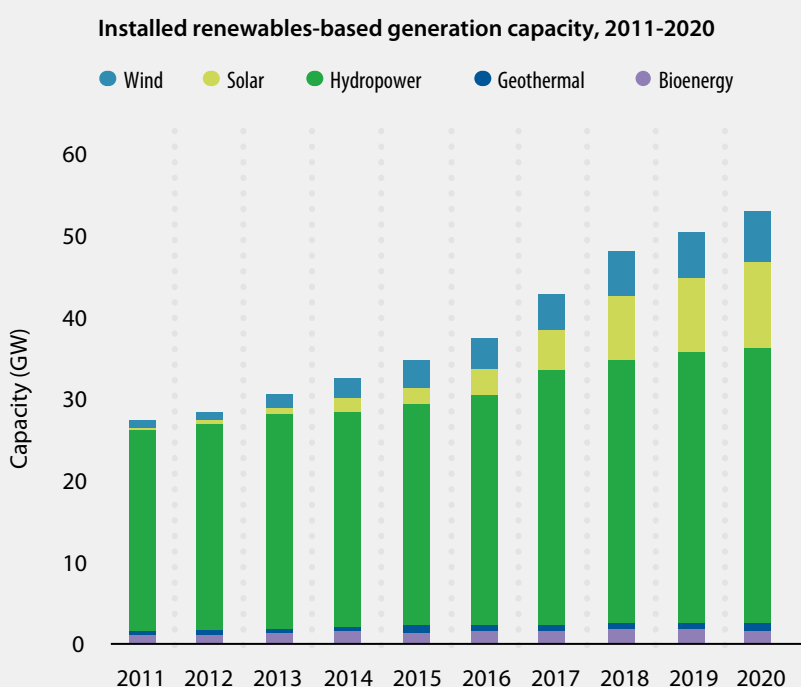
Figure 3.5 Composition of primary energy demand in Africa, 2019



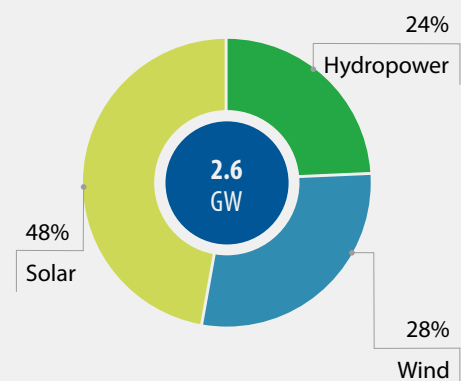
Note: Primary energy is the energy content drawn from a naturally occurring energy source.

Source: IRENA.

Figure 3.6 Renewables generation capacity in Africa, 2011–20 and additions, 2019–20



Capacity additions, 2019–2020



Source: IRENA and AfDB 2022.



### Box 3.1 Just Energy Transition Partnerships

A fossil-fuel phaseout could lead to stranded assets, reduce government revenue, and affect employment. To make the transition to a cleaner future fair, workers must be reskilled, alternative employment opportunities created, and a wide range of stakeholders involved. Just transition goals will require meaningful financial support from domestic and international public and private sectors.

Just Energy Transition Partnerships (JETPs) are a new way to achieve climate-compatible prosperity in middle-income countries by aligning national development with international climate goals. These multilateral financial agreements help emerging economies phase out fossil fuels. Climate finance discussions include JETPs, which could provide more money, and faster, to help developing countries transition away from fossil fuels. JETP funding includes grants, loans, and investment.

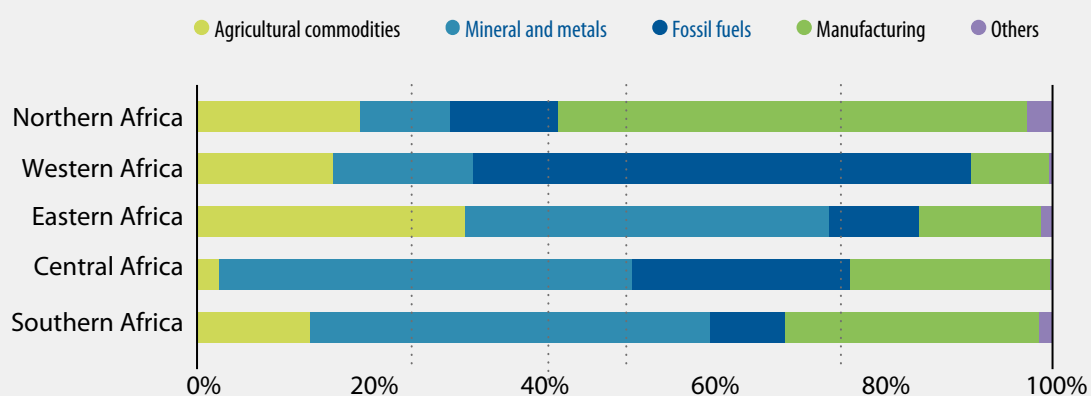
The first JETP was announced at the 2021 United Nations Climate Change Conference in Glasgow. South Africa was to receive \$8.5 billion in aid from France, Germany, the United Kingdom, the United States, and the European Union. Policy loans and concessional funding were pledged. At the 2022 conference, South Africa released the JETP Investment Plan, which outlined a transition pathway for the electricity sector, new energy vehicles, and green hydrogen. Over 20 years, the updated plan pathway is expected to prevent 1–1.5 gigatonnes of emissions and require \$98 billion in funding.

A second tranche of countries announced as partners in the JETP approach included India, Indonesia, Vietnam, and Senegal. At the Summit for a New Global Financing Pact in June 2023, a JETP providing EUR 2.5 billion in financial and technical aid was announced between Senegal and the International Partners Group (Canada, France, Germany, the United Kingdom, the European Union).. Over the next three to five years, multilateral development banks, the private sector, sovereign wealth funds, and philanthropic foundations will provide technical expertise and funding.

Source: Based on UNFCCC (2022); European Union (2021, 2023); The Presidency, Republic of South Africa (2023).

This reality, together with African countries' immediate development needs to extract and use their non-renewable energy resources, demands adequate consideration. It also needs to be seen in the context of African countries' prioritizing industrialization, diversification, and job creation for their growing and youthful populations. Hence, for Africa, a just energy transition drives much-needed diversification through sustainable and inclusive industrialization powered by a gradual transition to renewables. An abrupt exit from fossil fuels is neither feasible nor desirable, and the energy transition to renewables needs to be accompanied by effective social policies to avoid upheavals. Given Africa's overall low carbon dioxide emissions, the continent's near-term priority is energy access for all, to end energy poverty in affected countries and other forms of inequalities. Vast differences in emissions levels and trends remain, however, and some countries will need to reduce emissions, as North Africa illustrates (figure 3.9).

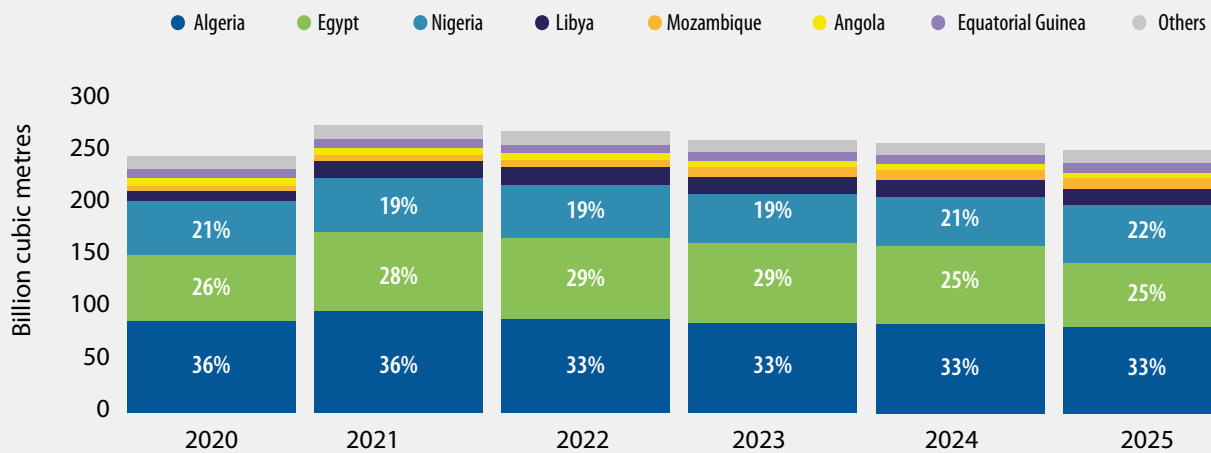
Figure 3.7 Share of fossil fuels in total exports, by African subregion, 2019



Source: IRENA 2022

Figure 3.8 Africa's top gas producers in the short term, 2020–25

A good three quarters of the continent's natural gas supply is coming from Algeria, Egypt and Nigeria in the short term



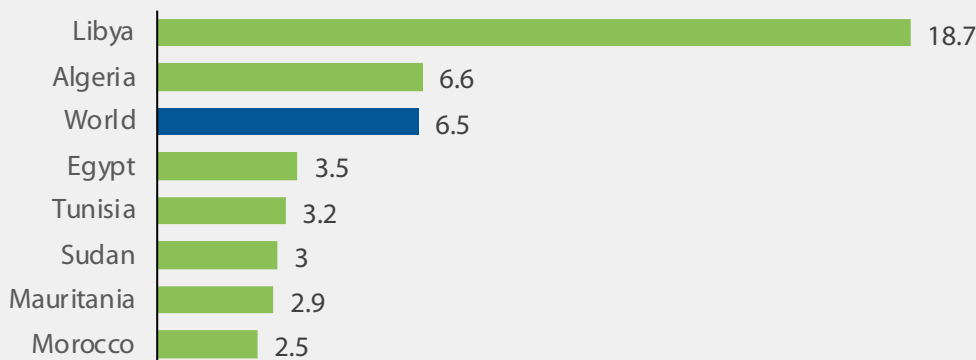
Source: Rystad Energy UCube.

A successful shift towards clean energy in Africa will need to deal with political economy obstacles. Even though African countries have vast unused renewable energy reserves, tapping into them will require reforms to current energy and governance systems. Such moves will need to deal with inertia and path dependency to overcome political obstacles (vested interests), as they will include dismantling current fossil fuel subsidies and changing the energy market's regulation and structure. They will also require substantial financing. The optimal speed of the just energy transition will thus vary across countries and reflect their initial conditions and specific circumstances.

Taking a longer-term view, the transition to sustainable energy is an opportunity to tap into Africa's vast renewables reserves while igniting the building of new, greener industries. The transition should fulfil the key objectives of energy accessibility, affordability, and equity.

Figure 3.9 Greenhouse gas emissions per capita in North Africa, 2020

(Tonnes of carbon dioxide equivalent per capita)



Source: ECA based on Global Carbon project data.

- **Energy accessibility.** All African countries should develop their energy sectors so that their entire population has access to energy. In transitioning to clean energy, this objective can be achieved only through a combination of grid-based energy infrastructure with decentralized energy systems calibrated to country circumstances. Ultimately, all Africans should be able to obtain increasingly clean energy from sources that are affordable and reliable, as well as environmentally and socially sustainable.
- **Energy affordability.** All African countries should eliminate energy poverty by providing affordable energy to all. This goal—central for meeting Sustainable Development Goal (SDG) 1 on reducing poverty, SDG 2 on eliminating hunger, and most others—requires enhancing the role of local energy service companies and cooperatives in pricing. If successful, all African households would have access to electricity for lighting, heating, cooling, and the like without depleting their budgets earmarked for other basic living expenses.
- **Energy equity.** Equitable energy systems must consider both intra- and intergenerational equity, building on Africa’s notion of equity and solidarity, and must include indigenous knowledge such as Ubuntu and Ukama. <sup>10</sup> This equity goal recognizes that disadvantaged communities, especially those in rural areas, have been left behind by energy underinvestment, which needs to be rectified.

For Africa, energy and economic diversification is a precondition for turning the 21st century into Africa’s century. The renewable energy transition should be a core part of the continent’s structural economic transformation, generating new and greener industries. Unlocking the potential of renewable energy as a lever of socioeconomic development will require a structural shift in national energy policies, well-honed policy tools, and international cooperation aimed at slashing the investment costs in renewable energy development.

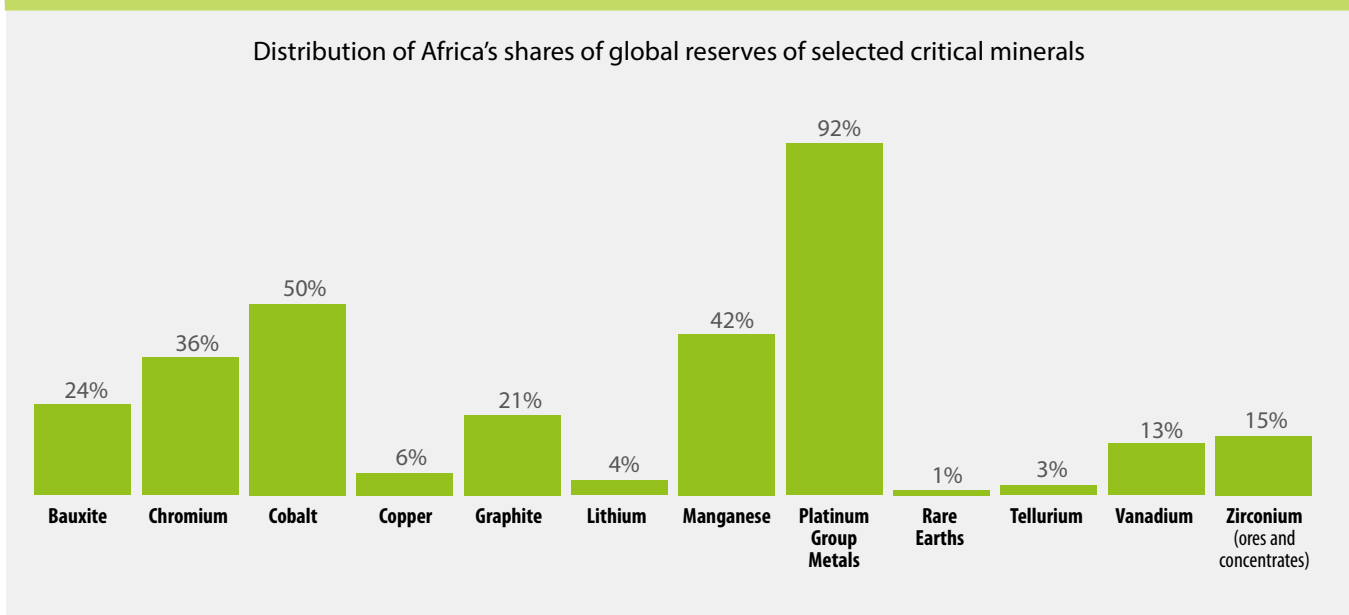
Pockets of excellence in renewable energy transition in specific sectors and countries exist already. For instance, through the Renewable Energy Independent Power Producer Procurement Programme, South Africa has become one of the leaders in renewable energy investment in Africa, gradually reshaping its energy sector, while pursuing regional collaboration. The latter allows for leveraging shared resources and strengths to optimize the benefits for the population of the Southern African Development Community. The regional approach brings about economies of scale, large-scale investments, greater local manufacturing, reduced costs, and enhanced energy services across the regional economic community.<sup>11</sup>

***For Africa, energy and economic diversification is a precondition for turning the 21st century into Africa’s century.***

## **AVOIDING THE “RESOURCE CURSE” AND LEVERAGING CRITICAL MINERALS**

Africa has a vast endowment of critical minerals are key to a successful global sustainability transition. The continent has about 30% of the world’s critical-mineral reserves and large shares of major critical-mineral categories, such as 92% of platinum group metals, 50% of cobalt, and 42% of manganese (figure 3.10). These minerals are key for the global energy and net-zero transitions, as essential components of renewable and low-carbon technologies; leveraging them is key for Africa’s development. This approach is also consistent with the AU’s Africa Mining Vision, which emphasizes mining as key to achieving Africa’s sustainable development and Agenda 2063.

Figure 3.10 Africa's global share of selected critical-mineral reserves, 2023

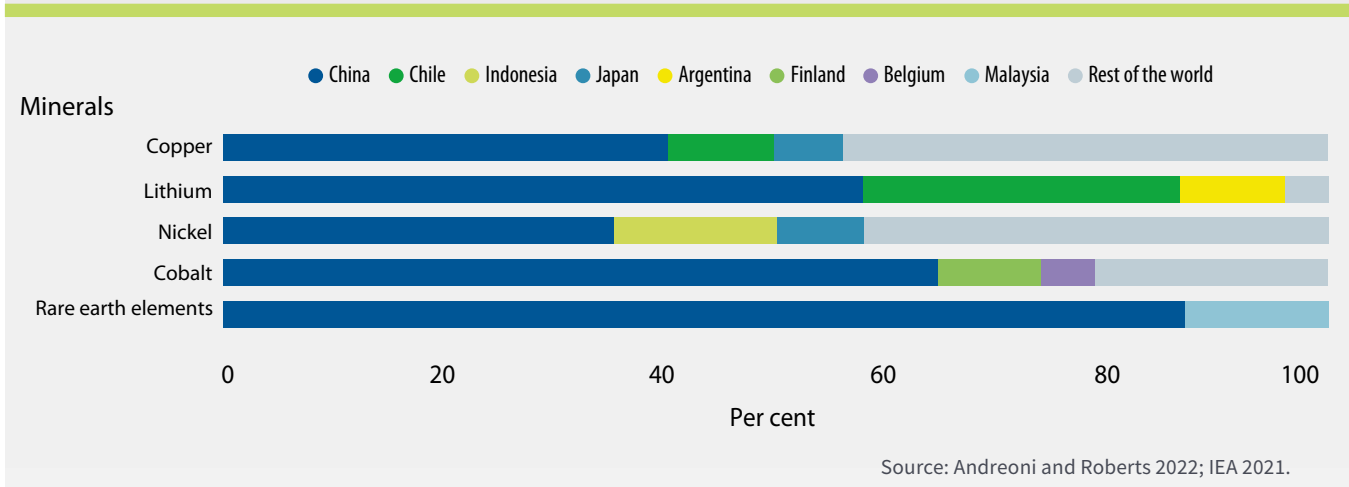


Source: US Geological Survey and US Department of the Interior, 2023

The World Bank projects that by 2050, demand for selected critical minerals will rise by up to 500%, and this demand cannot be met without Africa's resources. The rising demand will enable the continent to leverage its mineral endowments and generate transformative local and regional development through value-added processing and manufacturing. Currently, however, Africa exports its minerals mostly raw, with China dominating the processing market (figure 3.11)—and this needs to be changed.

**...by 2050, demand for selected critical minerals will rise by up to 500%, and this demand cannot be met without Africa's resources.**

Figure 3.11 Share of processing volume for selected critical minerals, by country, 2019



Source: Andreoni and Roberts 2022; IEA 2021.

The critical-mineral reserves present an opportunity to advance Africa's low-carbon industrialization while contributing to the global sustainability transition. This would entail shifting from raw critical-mineral exports to mid- or end-stage processing and value addition, while building the transformational infrastructure supporting renewable energy uptake. Developing Africa's Critical Minerals Strategy, based on the AU's Africa Mining Vision, could

go a long way here. Further, industrial policies will be key to diversifying Africa's local production and integrating it into manufacturing value chains for clean energy technology. Africa can be central in some 21st century global supply chains, including those for electric vehicles, lithium batteries, cell phones, or medical scanners.

Africa, its countries, and its subregions will need to implement a comprehensive package of policies and actions to avoid the resource curse experienced in the past and leverage its critical minerals for maximum sustainable development benefits. These policies and actions include:

- **Addressing skills gaps and mismatches.** African governments can facilitate strong links between educational institutions and mining and related industries to support programmes addressing skills gaps and mismatches and to build a workforce fit for purpose.
- **Adopting technological innovation.** Both the public and private sectors should invest in research to develop new, more efficient, and environmentally considerate extraction and processing methods. The continent should create a niche in selected end goods, such as electric vehicles and solar batteries, and develop a strategy for a fast-evolving asteroid mining space (box 3.2).
- **Addressing social and environmental risks associated with critical-mineral mining, such as environmental degradation or child labour, is a precondition for sustainability and linking African producers with global value chains.**
- **Using the AfCFTA to create regional value chains in processing critical minerals up to the final stages.** It provides opportunities for specialization via countries' comparative advantages, with increased competitiveness for regional value chains. This approach will allow subregions and the entire continent to benefit, even though critical minerals are found in only some countries.
- **Pursuing new resource exploration that leverages data and technology.** The supply of critical minerals is concentrated in several countries, but there is a mismatch between supply and demand on the continent overall and globally. To meet rising demand, countries can explore new mineral resources with the help of data and technology.
- **Assuring a coordinating role for regional and global public institutions of supply and demand for critical minerals in Africa and globally.** This will avoid huge mismatches, as well as large price spikes and fluctuations that could destabilize the sector.
- **Building and leveraging strategic partnerships.** Africa holds a key position in global sustainable transition efforts owing to its rich endowments in renewables and critical minerals, its demographics, and its strategic geopolitical location. The efforts of all major global powers to engage with the continent constitute another lever that Africa can use to form win-win partnerships and maximize benefits from its critical minerals.

### Box 3.2 Preparing for asteroid mining

Technology companies and venture capitalists are paying growing attention to asteroid mining—the extraction of critical minerals from near-earth asteroids. Estimates using data from Asterank, a database with assessments of the potential value of more than 6,000 asteroids tracked by the US National Aeronautics and Space Administration, suggest that mining just the 10 most cost-effective asteroids could yield around \$1.5 trillion. Asteroid mining could present a major challenge to global critical minerals, currently valued at about \$660 billion. For example, some asteroids contain up to \$50 billion worth of platinum. In contrast, South Africa, the largest global producer of platinum, with about 72% of the world's supply, mined only about \$3.8 billion worth of platinum in 2018.

Despite the current high costs of developing and deploying the technologies used in asteroid mining, the brisk pace of investment in space exploration and the potential exhaustion of the earth's resources mean that asteroid mining will become more an inevitability than a possibility. In fact, the growing attention to critical minerals, coupled with advances in artificial intelligence, are expected to accelerate asteroid mining in the coming decade.

African countries that depend on mineral revenue must engage assertively in the global discourse on asteroid mining to protect themselves against harmful impacts. For example, Democratic Republic of the Congo accounts for 70% of global cobalt production and needs to leverage this highly valuable resource during a period of extremely high demand for its use in electric vehicle batteries.

At the continent level, Africa may consider establishing an African expert group to provide knowledge-based input for engaging in the global discourse in the context of the AU's Africa Mining Vision. Several countries—Nigeria, South Africa, and Zimbabwe—have recognized the opportunity and potential presented by asteroid mining and expressed interest in it. In addition, Africa needs to advocate for an international regulatory regime that would ensure environmental and social safeguards from a just and sustainable transition perspective on investment in asteroid mining.

## MULTILEVEL, COLLABORATIVE GOVERNANCE FOR A JUST AND SUSTAINABLE TRANSITION

A JST in Africa calls for new governance infrastructure that ensures environmental sustainability and social inclusivity while promoting shared prosperity. In a globalized, digitalized, and increasingly knowledge-based world, this new infrastructure is unlikely to be achieved by governance systems relying predominantly on national governments and regulations.<sup>12</sup> Current challenges can rarely be confined to specific countries or subregions. With accelerating digitalization, new communication technologies, and reduced cost, interactions are becoming increasingly virtual, requiring governance based on collaboration and coordination.

Achieving a JST in Africa will thus necessitate a transition from regulatory to collaborative governance systems. All over the world, climate change and extreme weather conditions were until recently treated largely as local developments. But with the negative impacts of climate change intensifying, it is now recognized that these impacts often cross territorial, national, and even regional borders. The same applies to challenges that impede a JST. Thus, tackling these issues needs collaboration between different levels of government institutions. Such collaboration will not only allow experience sharing and exchange of information but also facilitate the closing of various governance gaps that may exist at different government levels. Also crucial will be involving other stakeholders, including civil society, private firms, and especially citizens who are increasingly interested in decisions that affect them (box 3.3 and figure 3.12).

Governments still have a key role in governance systems for JST, but instead of focusing on regulation, they should be increasingly incentivizing approaches, through appropriate rules and awards. Regional and global institutions, through incentives and funding, and alongside civil society and citizens, are also instrumental. As citizens of African countries become increasingly sensitive to climate change's adverse impacts, they are proactively demanding that their governments act and are pressing for more sustainable options for the goods and services they buy. Africa's small and medium-size enterprises are in turn being incentivized by consumers and governments to adhere to environmental, social, and governance standards (box 3.3).

***Achieving a JST in Africa will thus necessitate a transition from regulatory to collaborative governance systems... collaboration will not only allow experience sharing and exchange of information, but also facilitate closing of various governance gaps that may exist at different governmental levels.***

### Box 3.3 Sustainable corporate governance in Africa

Climate change is having a profound impact on Africa. Citizens, in addition to governments, are becoming aware of its adverse impacts. As people grow conscious of the environmental and social ramifications of their purchases, they are demanding more sustainable options. Prioritizing sustainability can thus be rewarding for African firms because it can give them a competitive advantage by offering sustainable products and services that increase customer satisfaction and loyalty. Firms are thus recalibrating their operational and strategic frameworks and developing new business models, in line with sustainable corporate governance, and respecting local ecological boundaries.

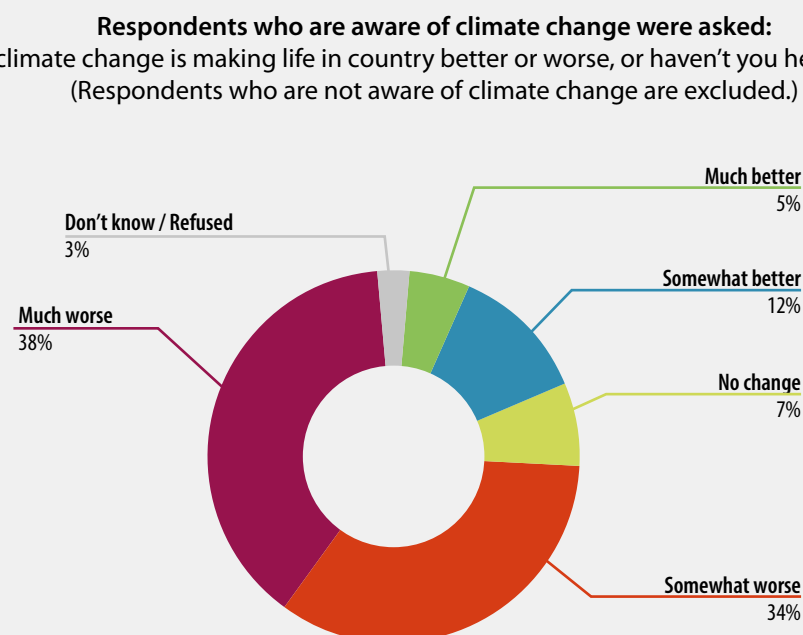
Trading partners, investors, and regulators in Africa, as in other regions, are emphasizing sustainability, with some investors divesting from firms failing to meet certain environmental, social, and governance (ESG) criteria. And governments are implementing stricter environmental and social regulations. For example, a new ESG regulation in Europe and a cross-border carbon tax will affect exports from Africa to the European Union. Getting into new markets that ask for sustainable products and attracting investors that prefer firms good at handling ESG risks and opportunities thus provide incentives for firms to adhere to environmental and other standards and build expertise in this area.

Support through the SWITCH Africa Green programme on sustainable consumption and production is part of the systemic shift towards a green and just transition. It is a regional programme that helps African countries transition to an inclusive, green economy by providing policy, technical, and financial support to small and medium-size enterprises (SMEs) on sustainable consumption and production. So far, it has supported SMEs from seven African countries—Burkina Faso, Ethiopia, Ghana, Kenya, Mauritius, South Africa, and Uganda—to move to more resource-efficient, environmentally sound business practices that also increase profitability, create green jobs, and reduce poverty. The following are SWITCH Africa Green’s key areas of support:

- Efficient resource use in SMEs through cleaner production and reuse and recycling of waste and by-products.
- Going circular, entailing national processes towards a circular economy.
- Green manufacturing through product design and development.
- Integrated solid waste management and waste to resource conversion.

Source: [www.switchtogreen.eu/home/switchafricagreen](http://www.switchtogreen.eu/home/switchafricagreen).

Figure 3.12 Perceived impact of climate change in 39 African countries, 2021–23



Source: Afrobarometer 2023.

Development practitioners and analysts have identified seven governance gaps that hamper effective sustainability transition and climate actions. These gaps are:<sup>13</sup>

- Capacity gap—divergence in human, technical, and other key capabilities.
- Policy gap—institutional and territorial fragmentation and lack of policy coherence.
- Objectives gap—varying objectives of different institutions.
- Accountability gap—shortages in decision-making, monitoring, and evaluation.
- Information gap—information systems with incomplete or no data.
- Funding gap—ad hoc resource allocation and irregular or uneven financial management of projects.
- Administrative gap—mismatch of administrative and natural boundaries.

Table 3.1 lists the policy actions that can address each gap and thus create well-functioning collaborative governance systems.

**Table 3.1 Policies to close governance gaps and enhance collaboration**

Governance gap	Suggested policy measures
<b>Capacity</b>	Supporting continuous upskilling at all government levels. Promoting expertise, knowledge, and skill sharing.
<b>Policy</b>	Ensuring coordinated and harmonized policy design and implementation. Implementing coherent and complementary policies from the African Union to the local level.
<b>Objective</b>	Creating a clear, consistent, and shared vision. Managing conflicting objectives and interests.
<b>Accountability</b>	Establishing consistent monitoring and reporting tools and structures. Agreeing on clear roles and responsibilities.
<b>Information</b>	Communicating efficiently and in a harmonized manner. Using databases and platforms for data collection, analysis, and sharing.
<b>Funding</b>	Pooling resources, skills, and techniques. Establishing stable financing mechanisms.
<b>Administrative</b>	Establishing coherence between plans from different administrative tiers.

Source: Adapted from Coopenergy (2015).

## HARNESSING FRONTIER TECHNOLOGY

The disruptive technologies driving the fourth industrial revolution bring major opportunities for JST in Africa via leapfrogging. These frontier technologies include the artificial intelligence and robotics, additive manufacturing, new materials and energy technologies, biotechnologies, transport and communication technologies, and virtual and augmented reality. Recent developments in disruptive technologies, such as modular manufacturing and renewable energy technologies, are more distributive and less concentrated than previous technologies. This and the early stage of economic development of most African countries open leapfrogging opportunities, but the leapfrogging solutions must be context specific and responsive to local dynamics to bring Africa to the cutting edge.

To seize these opportunities, African countries should promote transformative leapfrogging that is internally driven and responsive to national contexts. Africa could be a major beneficiary of the ongoing digital and other



transformations, and lead in some areas, if it establishes a dynamic innovation ecosystem that mobilizes its young people's creative capacity to develop and apply new disruptive technologies. An automotive sector, and especially its e-mobility segment, is one example of a sector particularly prone to disruption, creating opportunities for Africa's leapfrogging and global leadership.

The impacts of disruptive technologies will depend largely on governance. That is, it will matter who controls their use and for what purpose—and whether these technologies are used for a JST that will create more inclusive and sustainable economies and societies. By empowering people with information and knowledge, progress in information and communications technology (ICT) has created transformational opportunities. Yet, if it is not well-regulated, the increasing application of artificial intelligence in industrial processes is not only an opportunity but also a threat.

The United Nations Conference on Trade and Development's Frontier Technologies Readiness Index shows that African countries need to be better prepared for digitalization and other disruptive technologies. The index assesses country readiness based on ICT infrastructure, human skills, research and development capacity, industry activity, and financing. In 2021, Algeria, Egypt, Mauritius, Morocco, Namibia, South Africa, and Tunisia scored the highest in Africa, ranging from 0.4 to 0.6 (on a scale of 0, lowest, to 1, highest). The first step to improving is conducting national preparedness assessments to identify and address critical gaps as part of national JST plans.

## INTERNATIONAL PARTNERSHIPS FOR A JUST AND SUSTAINABLE TRANSITION

For decades, Africa has lacked a unified voice on the issues affecting the continent and discussed in international forums, but the tide has recently started to turn. In a game-changing development, Africa, represented by the African Union Commission, recently gained a seat at the G20 Forum. The continent has also obtained additional seats on the boards of directors of the International Monetary Fund and the World Bank. Further, there is almost universal support for it to become a permanent member of the UN Security Council. Securing Africa's rightful place in the new world order and ensuring that its economies can achieve JSTs require a forward-leaning strategy that aligns with Africa's efforts to meet the SDGs and fulfil its Agenda 2063 aspirations. Implementing the AfCFTA should also reduce fragmentation.

To amplify the continent's voice in the international arena, African countries could consider:

- Developing a comprehensive strategy that defines collective and coherent engagement with partnership platforms, such as the Forum on China–Africa Cooperation, and the European Union–African Union Summit, by mobilizing the continent's national governments, the private sector, academia, and civil society.
- Further leveraging pan-African institutions, namely the AU, the African Development Bank, and the United Nations Economic Commission for Africa, and other regional partners to forge and promote a continental strategy that secures Africa's central position in the evolving, multipolar world.
- Relying more on the UN system to provide consolidated technical and capacity-building assistance in integrating JST principles in national policies and development planning.

***Securing Africa's rightful place in the new world order and ensuring that its economies can achieve JSTs require a forward-leaning strategy that aligns with Africa's efforts to meet the SDGs and fulfil its Agenda 2063 aspirations.***

## ENDNOTES

<sup>1</sup> Sachs 2001.

<sup>2</sup> APP 2015.

<sup>3</sup> AU 2023

<sup>4</sup> Sokona et al. 2023.

<sup>5</sup> IEA 2022.

<sup>6</sup> IRENA 2021.

<sup>7</sup> Garrett-Peltier 2017.

<sup>8</sup> IRENA 2023.

<sup>9</sup> IMF 2023.

<sup>10</sup> Ubuntu and Ukama are African beliefs that provide the foundation for an African culture of environmental conservation and sustainability through the relations among nature, society, and ancestral heritages.

<sup>11</sup> Based on the case study from South Africa. See chapter 4 for details.

<sup>12</sup> Swilling 2019.

<sup>13</sup> OECD 2011.



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# CHAPTER 4: STRATEGIC INVESTMENT OPPORTUNITIES

## KEY MESSAGES

- Africa's economic growth and job creation remain below its potential, with weak investment a key factor. The continent has huge untapped potential for attracting investment for a just and sustainable transition (JST). The main strategic investment opportunities are in renewable energy, battery and electric-mobility value chains, carbon-credit markets, sustainable infrastructure, and the circular economy.
- Africa's vast renewable energy resources present particularly strong sustainable investment opportunities: 80% of them are estimated to have a return of more than 15%, and some areas have a gross profit margin of more than 25%. Many opportunities are below \$500,000, suitable for small-scale investors and small and medium-size enterprises (SMEs).
- The high perceived risks in the renewable energy and other sectors, including exploration, start-up, and exit risks, deter investors and prevent both the closing of the energy gap and decarbonization. Effective de-risking tools such as partial credit guarantees, power purchase agreements, and tariff inflation indexing could ease investors' discomfort, however. Credibly de-risking projects is critical to attract much-needed private capital.
- The African Continental Free Trade Area (AfCFTA) provides opportunities to scale up both industrialization and green businesses, driving the JST in Africa, where sustainable industrialization is vital. The AfCFTA can be a game-changer by attracting quality investment, propelling industrialization, boosting intra-Africa trade and investment, creating jobs, reducing poverty, and fostering shared prosperity.
- The findings and lessons from country studies in Gabon, Kenya, Morocco, Senegal, and South Africa show the importance of developing national financing mechanisms guided by a clear policy vision that is supported by the required institutional framework.
- Public-private partnerships (PPPs) are a key part of financing, to use the private sector's efficiency and to scale finances with public sector capacity to de-risk investment.

## AFRICA NEEDS MORE AND BETTER INVESTMENT, AND THE AFRICAN CONTINENTAL FREE TRADE AREA CAN DELIVER IT

**T**o realize a JST, Africa would benefit from developing an ambitious yet realistic investment agenda in strategic sectors. The continent's enormous potential to attract sustainable investment, that is, investment where the economic, social, and environmental benefits exceed the cost, has been recognized, but realizing it remains elusive. Because of its low development, the continent faces stark trade-offs when choosing its strategic goals—for example, between ending energy poverty and containing carbon emissions when pursuing a just energy transition. This chapter highlights some of the trade-offs and discusses promising sectors and areas that could energize low-carbon industrialization and put the continent on the JST path.

In addition to natural resources, Africa's youthful and increasingly better educated population can attract more and higher-quality, resource-seeking investment. Africa has the world's fastest-growing population, 6 of the 10 most urbanized countries, and a growing middle class. In 2022, Africa also had the world's youngest population, with a median age of 19 years, compared with 30 years for Latin America and the Caribbean, 31 years for developing Asia, and 42 years for Europe. By 2050, Africa's population will rise by about 80%, from about 1.4 billion to nearly 2.5 billion. Young people are also increasingly better educated, as rates for completing an upper-secondary education or higher are projected to reach 34% of the cohort by 2040, almost double the 18% in 2010.<sup>1</sup> This demographic offers an opportunity to drive economic transformation and green business innovation through enhanced investment.

The AfCFTA provides opportunities to scale up and accelerate the sustainability transition by creating a single market in goods and services across the continent. The AfCFTA can thus incentivize countries to pursue their comparative advantages and form regional value chains with backward links. If trade and investment policies are harmonized and tariffs and non-tariff barriers reduced, the AfCFTA can be a game-changer by delivering transformative economic integration, attracting investment, propelling industrialization, and boosting intra-Africa trade. The AfCFTA also has potential to have positive social impacts by creating jobs, reducing poverty, and fostering shared prosperity.

## ADVANCING STRATEGIC INVESTMENT OPPORTUNITIES FOR A JST

A JST offers substantial investment opportunities, especially in strategic sectors such as renewable energy, battery and electric-mobility value chains, carbon-credit markets, sustainable infrastructure, and the circular economy.

### RENEWABLE ENERGY

Africa accounts for only 2% of global investments in renewable energy and less than 3% of global renewables jobs, even though it is home to almost 20% of the world's population and has vast renewable energy resources—wind, solar, hydro, and geothermal. The Nairobi Declaration pointed out that Africa has 40% of global renewables potential. Further, according to the International Energy Agency (IEA), overall energy investment has been declining in Africa to under USD 90 billion in 2022. At this rate, 565 million Africans will still be without access to electricity by 2030. Moreover, clean energy accounted for a mere 2% of the global total (USD 25 billion).

Amid climate change challenges driving the global sustainability transition, the continent is well positioned to leverage its rich endowments in critical minerals and its potential in renewable energy sources to play a key role in this global transition and to pursue a just energy transition (box 4.1). African countries have a high energy access deficit and will face increasing demand for clean and affordable energy over the next few decades. With an electricity access rate of 49.2% (excluding North Africa) in 2021, Africa's electricity deficit is the largest in the world.<sup>2</sup> The continent has abundant energy resources but lacks investment.

Renewables are among the most promising sectors for sustainable investment, alongside food and beverages,

***Africa accounts for only 2% of global investments in renewable energy and less than 3% of global renewables jobs, even though it is home to almost 20% of the world's population and has vast renewable energy resources—wind, solar, hydro, and geothermal.***

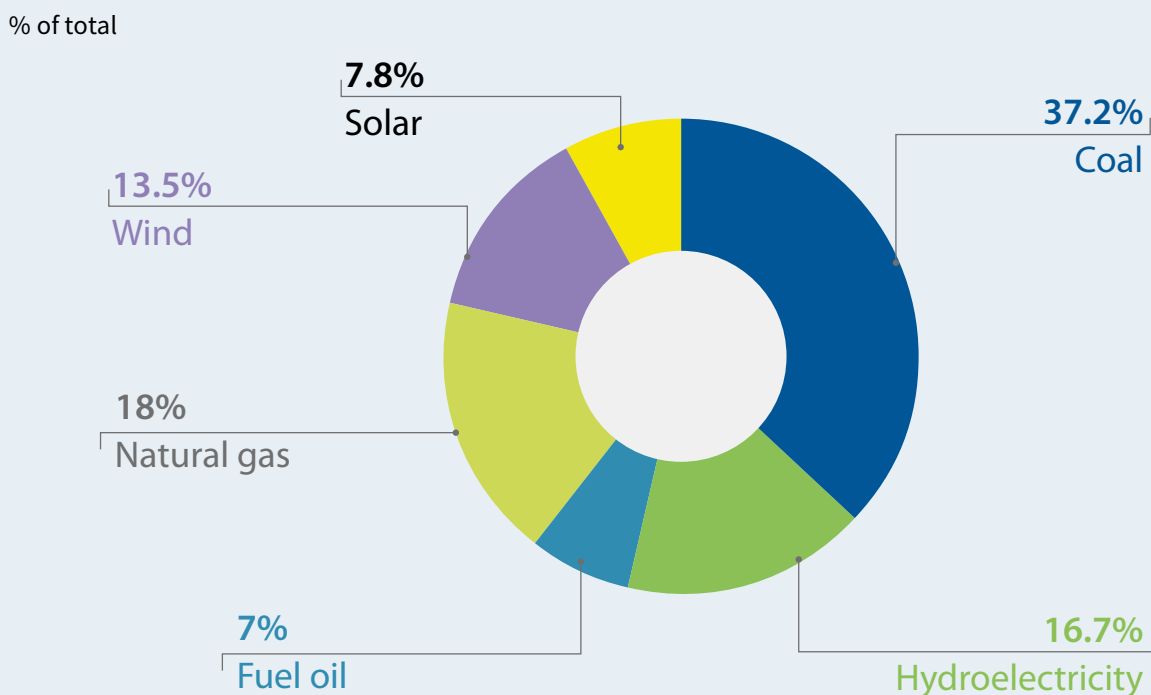
infrastructure, health care, and education.<sup>3</sup> Renewable energy provides African economies opportunities for economic growth, low-cost technologies to improve energy access and quality, and the potential for industrial development in new value chains. The sector also has the potential to greatly reduce the continent's trade deficits, develop new local value chains, and create local jobs, all while reducing the environmental impacts of fossil fuel-based power generation and traditional biomass for heating and cooking.

#### Box 4.1 Investing in solar and wind energy in Morocco

In 2022, renewables made up 38% of Morocco's electricity production (box figure 1), close to the goal set in the 2009 energy plan, which prioritizes clean energy. Morocco was ranked among the top five African countries in renewable energy, with a capacity of 3,727 megawatts according to the International Renewable Energy Agency. The country, home to the world's largest solar energy plant, aims to generate 52% of electricity from renewables by 2030. To this end, the government has pursued reform of the regulatory framework governing the renewable energy sector. Governance of the sector has also been strengthened through the creation of the Moroccan Agency for Sustainable Energy and the Research Institute for Solar Energy and New Energies.

Morocco is positioning itself as a regional hub for exporting renewable energy to Europe. An 11.5 gigawatt (GW) solar-plus-wind project is under development in Guelmim Oued Noun region, and 3.6 GW of its output is expected to be exported to the United Kingdom. The project will have a positive impact on jobs, by stimulating production of locally manufactured solar and wind components as well as local civil engineering work. Almost 10,000 jobs should be created during construction, 2,000 of which will be permanent. The project will reinforce Morocco's renewable energy industry.

Box figure 4.1 Composition of electricity production in Morocco, 2022

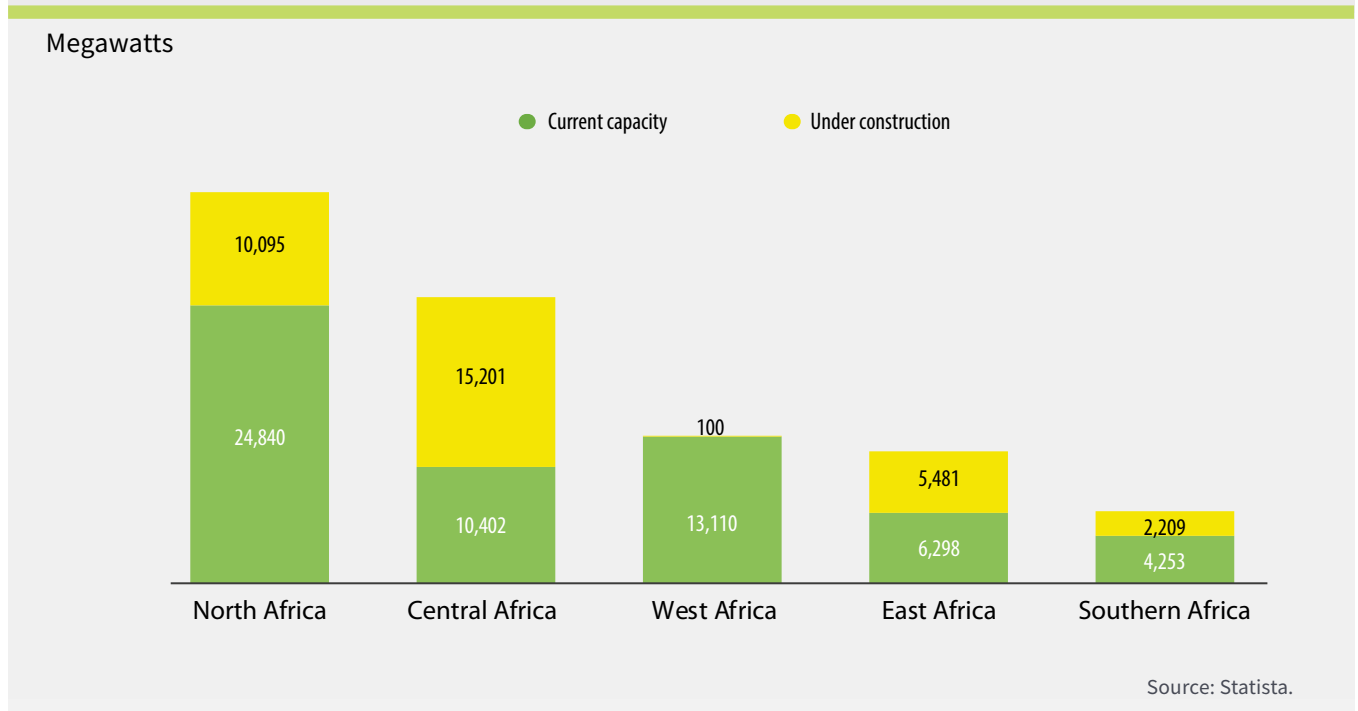


Source: <https://www.trade.gov/country-commercial-guides/morocco-energy>.

The drive towards renewables is not without its pitfalls: chiefly resource curse symptoms, such as overreliance on external loans and technology, and exacerbated water scarcity and diversion of water from agriculture.

The indicative returns on investment in renewable energy sources are very high, with 80% of investment opportunity areas having a return on investment of more than 15% and all areas having a gross profit margin of more than 25%. Most opportunities are below \$500,000—good for small-scale investors and SMEs.<sup>4</sup> Yet only a tiny portion of these investment opportunities have been harnessed so far. North Africa is the current leader on the continent in renewable energy capacity, reflecting completed and ongoing solar and wind projects in Algeria, Egypt, Morocco, and Tunisia (figure 4.1).

Figure 4.1 Current capacity and capacity under construction of renewable projects in Africa, by region, 2021



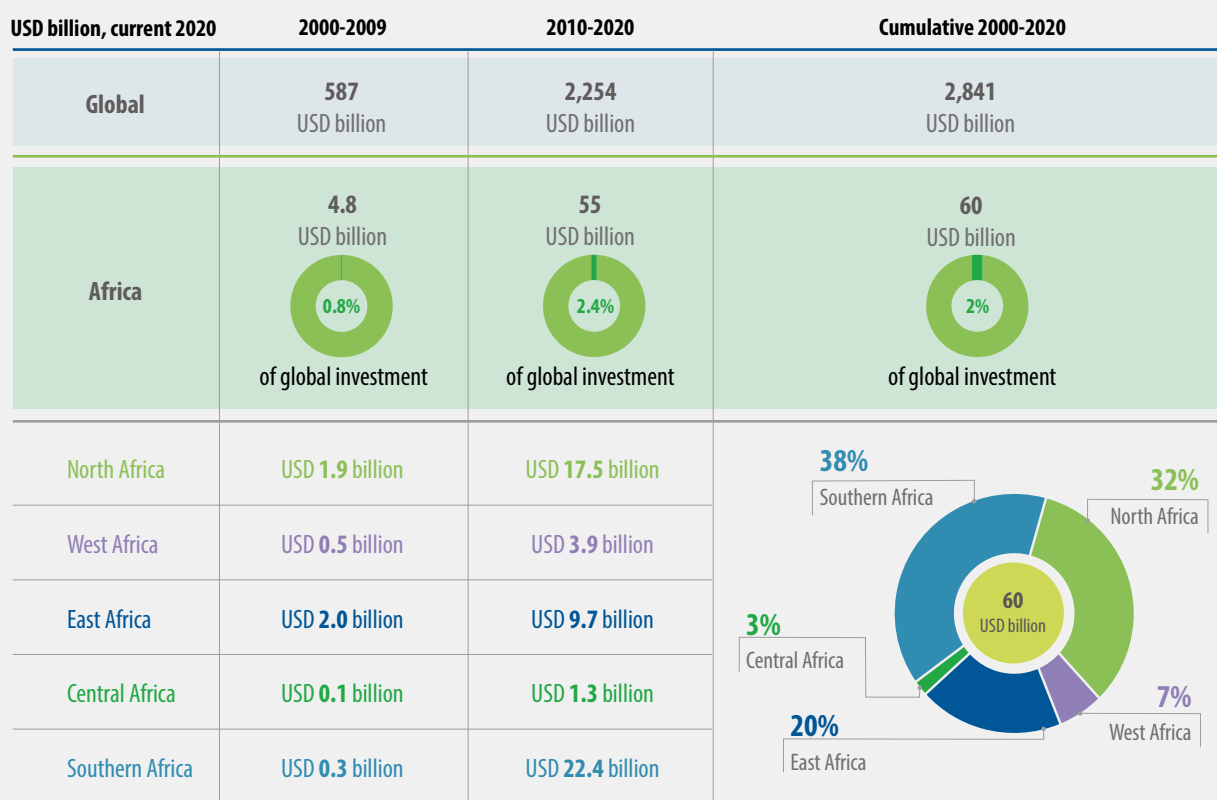
The most developed renewable energy resource in Africa is hydropower. In 2020, only 9% of energy generated in Africa came from renewable sources, with heavy reliance—75%—on hydropower. Other renewable energy sources, such as solar, wind, geothermal, and bioenergy, make minor contributions to Africa’s energy mix. In 2022, the continent had 87 hydropower plants with a total capacity of 35 gigawatts (GW).<sup>5</sup> Countries with large hydropower capacity include Angola, Democratic Republic of the Congo, Ethiopia, Mozambique, Nigeria, South Africa, Sudan, and Zambia. The Congo River, the deepest in the world, can generate approximately 774 terawatt-hours (TWh) of electricity a year and has a projected capacity of 100 GW.<sup>6</sup> The continent also has potential for deploying mini-hydropower plants (0.1–1 megawatts [MW]) to drive rural electrification efforts. Regarding other African renewables resources:

- Most wind resources in Africa are near coasts and mountains, mainly in the eastern and northern regions. Algeria, Egypt, Ethiopia, Ghana, Kenya, Somalia, South Africa, Sudan, and Tanzania have the highest inland wind energy potential,<sup>7</sup> while Angola, Madagascar, Mozambique, South Africa, and Tanzania have high offshore potential.<sup>8</sup>
- Africa accounts for only about 1% of installed solar energy capacity, even though it has 40% of the world’s potential. Africa’s solar photovoltaic capacity exceeds its projected energy demand, with the potential to generate more than 660,000 TWh of electricity a year. East Africa has the highest potential, with more than 200,000 TWh a year in theoretical capacity, followed by Southern Africa, with more than 160,000 TWh.<sup>9</sup>

- Geothermal resources in East Africa are concentrated in the Great Rift Valley, including Eritrea, Ethiopia, Kenya, Tanzania, and Uganda; the East African Rift System boasts an estimated 20,000 MW geothermal potential. Kenya is Africa's top geothermal power generator and the world's seventh largest, with an installed capacity of 950 MW, enough to power 3.8 million homes.<sup>10</sup>

Even though Africa still accounts for less than 3% of global installed renewable-based electricity generation capacity, there was a 7% increase in renewable generation capacity over 2010–20. Solar energy saw the largest increase in that time. Much of the expansion is due to large-scale projects in individual countries, particularly utility-scale hydropower and solar photovoltaic installations. Yet energy consumption and investment in Africa have not kept pace with global trends, which see renewable energy deployment overtaking traditional generation options. While investment in renewable energy across the continent has grown over the past decade, totalling \$55 billion in 2010–20, total global investment in renewables in the decade was nearly \$2.3 trillion. Africa thus accounted for only 2.4% of global investment in renewable energy over the past two decades, concentrated in Southern Africa (38%), North Africa (32%), and East Africa (20%) (figure 4.2).

Figure 4.2 Renewable energy investment, global and in Africa, 2000–20



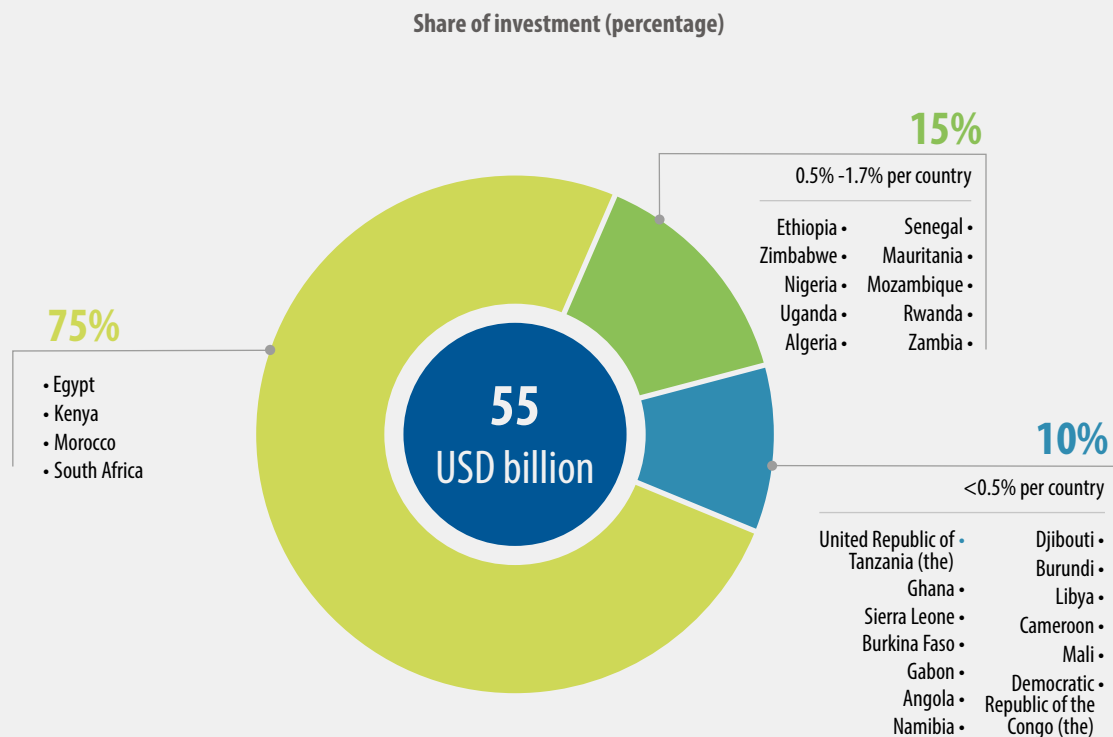
Note: Excludes investment in large hydropower projects (greater than 50 megawatts).

Source: BNEF 2021.

Investment in renewables remains concentrated in a few countries. From 2010 to 2020, 90% of such investment went to 14 of 54 African countries. Three-quarters of investment went to South Africa, Morocco, Kenya, and Egypt (figure 4.3). The investment in these four countries favours their higher returns and lower risks owing to factors such as policy, the institutional environment, regulations, financial access, and market characteristics, such as size, prospects, and stability. Weaker enabling factors may lead to political, financial, legal, operational, and credit risks. Insufficient capital flows to countries in need reflect a lack of well-structured projects with favourable risk-return profiles (box 4.2).



Figure 4.3 Share of renewable energy investment across African countries, 2010–20



Note: Excludes investment in large hydropower projects (greater than 50 megawatts).

Source: BNEF 2021; IRENA and AfDB 2022.

#### Box 4.2 De-risking investment in Africa's renewable energy sector

Difficulty in attracting enough investment is a major obstacle for deploying renewable energy in developing countries. Geothermal energy is associated with high upfront costs and risks related to drilling. Finding ways to de-risk projects is critical to unlocking the potential for private international capital to develop renewable energy in Africa.

There are various de-risking instruments, but studies show that most are fragmented. They do not offer a complete set of tools for reducing uncertainty and do not cover all stages of a renewable energy project life cycle.

Tax exemptions for renewable energy plants, well-constructed production-based support schemes (that is, feed-in tariffs and public tenders dedicated to renewable energy), and discounted financing or concessional grants are just a few of the measures that African governments could implement to attract international private investment. Financial and regulatory warranties throughout all phases of a project, backed by effective de-risking tools, such as power purchase agreements, tariff inflation indexing, and contracts in hard currency are required.

Detailed national energy policies supported by relevant regulatory instruments and a regulatory authority with clear and defined responsibilities are also necessary.

Africa's blue economy also presents potential and untapped renewable energy sources. According to the United Nations Environment Programme (UNEP), renewable ocean energy produced around Africa has the potential to meet 100–400% of the world's current energy demand, making it a huge untapped resource for Africa. Some African countries are already experimenting with blue energy: Ghana has been investigating wave energy and Mauritius floating solar photovoltaics.<sup>11</sup> Moreover, UNEP estimates that if pollution and climate change are addressed, the blue economy could generate \$576 billion and 127 million jobs in the coming 40 years.

## BATTERY AND ELECTRIC-VEHICLE VALUE CHAINS

Africa stands to gain considerably from the soaring demand for the minerals that constitute critical inputs for electric vehicles, wind turbines, solar panels, and other products. Africa is a major supplier of many of those minerals, producing 70% of cobalt, 65% of manganese, 25% of bauxite, 20% of graphite, and 15% of copper globally, and many others. Global metal and mineral demand has been growing rapidly, alongside demand for renewable energy and other transitional technologies, and is projected to rise further. For example, compared with a gas-fired power plant, producing 1 TWh of electricity using solar technologies requires up to 300% more metal (and using wind technology requires 200% more). Similarly, more minerals are needed to manufacture battery or fuel-cell electric vehicles than internal combustion vehicles.

The priority for African policymakers is to use the rising demand for critical minerals and build links with other sectors to add value added beyond exports of raw materials. Most African mineral-rich economies are still involved in mining and mineral processing, capturing only a small portion of their minerals' global value. They would benefit from moving to higher-value products. Their abundant resources should make them attractive locations for businesses looking to establish renewable energy manufacturing facilities near raw material supply chains.<sup>12</sup> This will require implementing strategies to transform the value chains across sectors and integrate the global value chains of critical-mineral production. It will also require companies to support vocational training and apprenticeships to build local skilled and semi-skilled workforces. To pursue diversification, African countries should develop a variety of local procurements that create jobs in domestic manufacturing and connect with the non-resource sector.<sup>13</sup>

The window of opportunity for African countries to leverage their mineral resources is, however, relatively short, and there is an urgent need to speed up. Leaders need to take proactive steps to turn the resource curse into a resource blessing and ensure that the basic rights of affected individuals and communities are protected within mining projects.

The regional value chain development exemplified by the 2022 agreement between Zambia and the DRC has the potential to bolster Africa's position in the critical mineral value chain (Box 4.3).

### Box 4.3 Democratic Republic of the Congo–Zambia initiative

A coalition of regional partners—including the African Development Bank, the African Export-Import Bank, the African Legal Support Facility, the African Minerals Development Centre, the African Union Commission, the United Nations Economic Commission for Africa (ECA), and other organizations—is helping states build a regional value chain for battery and electric vehicles that is based on green minerals. Democratic Republic of the Congo and Zambia signed a memorandum of understanding to establish cross-border special economic zones for mineral processing and battery manufacturing and centres of excellence for battery manufacturing.

With support from ECA and the other partners, a BloombergNEF study demonstrated Democratic Republic of the Congo's potential competitive advantage in manufacturing battery precursors, whose market value is estimated to reach \$271 billion by 2025.<sup>14</sup> The potential advantage stems also from sourcing minerals from within Africa through the African Continental Free Trade Area.

To ensure the success of the battery and electric-vehicle value chain initiative, Democratic Republic of the Congo has committed to build skills for the electric battery industry. With support from ECA, a centre of excellence for research and innovation on batteries was officially launched in April 2022 by the Copperbelt University and the University of Zambia. The centre is housed within the polytechnic faculty of the University of Lubumbashi.

Source: ECA 2023.

Under the African Union's Agenda 2063, various stakeholders have championed several regional programmes and initiatives for job creation. Because investing in energy transition technology creates nearly three times as many jobs as investing in fossil fuels, renewables can be important in supporting job development in Africa.<sup>15</sup> Initiatives such as the Africa Clean Energy Corridor, the Africa Power Vision, the Africa Renewable Energy Initiative, and the recently launched Africa Single Electricity Market are particularly promising. Local manufacturing of renewable energy

components is also an area for industrial and business growth in Africa, offering a way for national governments to reduce dependence on commodity exports and build economic resilience. Figure 4.4 shows the manufacturing opportunities some African countries have in relation to their mineral resources.

Figure 4.4 Renewable manufacturing opportunities relative to mineral resources in African countries



## CARBON-CREDIT MARKETS

Carbon markets could support Africa's goals of resilience and prosperity, in line with Agenda 2063. They also present a potential path for achieving the Paris Agreement's climate goals. As efforts to align global economic growth with net-zero pathways accelerate, the demand for carbon credits exceeds the combined credible supply of voluntary and compliance markets. African countries could leverage their vast renewable energy resources, tropical forests, peatlands, and marine ecosystems to export premium carbon credits, providing a new revenue stream. A failure, however, to ensure credit additionality, appropriate governance, and high enough prices could lead to perverse market incentives that increase carbon emissions and slow the climate transition.

Two types of carbon market exist: the regulatory compliance market and the voluntary carbon market (VCM). But so far, credits from the VCM, where many African countries participate, have been only a small fraction of those supplied by the overall regulatory compliance market.

The compliance market is used by companies and governments required by law to account for their greenhouse gas emissions. It is regulated by mandatory national, regional, or international carbon reduction regimes. In the VCM,

the trade of carbon credits is voluntary. In 2022, while the VCM value was approaching a mere \$2 billion,<sup>16</sup> the value of traded carbon permits in global markets reached a record EUR 850 billion (\$909 billion).<sup>17</sup> On a more positive note, estimates point to the VCM reaching \$10–\$40 billion by 2030. A third of the VCM's traded volume were retiring credits (that is, buying credits to count towards a commitment), but Africa contributed only 11% of this type of VCM credits in 2016–21.<sup>18</sup> Africa currently realizes only around 2% of its annual potential of carbon credits.

Most of the credits in the VCM have come from nature-based solutions, including forest conservation, improved agricultural cultivation, and reforestation. Energy savings from fuel efficiency and fuel switching were additional sources. Cameroon, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Nigeria, Tanzania, Uganda, Zambia, and many other African countries have participated in the VCM.

Africa has the potential to be a cost-competitive carbon-credit generator thanks to its vast untapped renewable energy potential; youthful, rapidly growing workforce; available land and other natural assets; and low emissions. Proceeds from sales of carbon credits can provide additional revenue for climate-smart interventions (Box 4.4). In addition to improving the climate, many of these interventions improve livelihoods, create jobs, spur new economic and industrial activity, or solve pressing issues such as energy poverty, low and declining agricultural yields, and air-quality issues arising from cooking fuels and vehicle emissions.<sup>19</sup>

#### Box 4.4 The Africa Carbon Markets Initiative

Expanding global demand for carbon credits could generate large amounts of additional finance for Africa, but avoiding the creation of perverse market incentives that lead to more carbon emissions and that slow the climate transition will require ensuring the additionality of new carbon credits, appropriate governance, and high enough prices.

As economies strive to achieve net-zero pathways to growth and development, demand for carbon credits exceeds the supply available in voluntary and compliance markets. Africa can seize the moment by creating a high-quality and trustworthy carbon-credit market.

The Africa Carbon Markets Initiative, launched during the 2022 United Nations Climate Change Conference to address the challenges in relying on growth of voluntary carbon markets, is laying the foundation for a thriving voluntary carbon market ecosystem in Africa by 2030. The initiative aims to produce 300 million carbon credits annually and to mobilize up to \$100 billion a year by raising the quality and integrity of African credits. It also aims to create 100 million jobs by 2050 through carbon project development, certification, monitoring, reporting, verification, and carbon trading. The initiative seeks not only to boost decarbonization activities and protect forests but also to advance economic development by improving energy access, facilitating the clean energy transition, modernizing agriculture, and generating new income.

Source: ACMI 2022.

The potential for premium credits from nature-based solutions for climate change mitigation in Africa is considerable, as the continent is home to major carbon sinks, and its renewable energy generation has been growing (table 4.1). Specifically, nature-based carbon removal at \$50 per tonne can generate \$15 billion in annual revenue while creating jobs for 85 million Africans, potentially generating \$57 billion a year and supporting more than 140 million Africans if the price rose to \$100 per tonne. The African Carbon Market Initiative (ACMI) estimates that 110–190 million African jobs can be created by 2050 if the carbon price per tonne reaches \$80 and direct and indirect jobs are added beyond nature-based solutions.

Evolving carbon markets also present challenges for African economies. For example, implementation of the EU Carbon Border Adjustment Mechanism could result in decreased exports from Africa to the bloc. Specifically, projections by the London School of Economics and the African Climate Foundation indicate potential export reductions of up to 13.9% in aluminium, 8.2% in iron and steel, 3.9% in fertilizer, and 3.1% in cement. The report highlights that this could translate into an annual decline in gross domestic product (GDP) of up to 0.9%, equivalent to some \$27 billion, based on 2022 GDP figures.

**Table 4.1 Mitigation potential and comparative advantages of Africa and the Middle East**  
(million tonnes of carbon dioxide equivalent per year)

	Greenhouse gas mitigation or offset potential at \$100 per tonne of carbon dioxide equivalent	
	Technical <sup>a</sup>	Economic <sup>b</sup>
<b>Forest and other ecosystems</b>		
• Reduced deforestation and forest degradation—conservation of existing carbon pools in forest vegetation and soil	984–2,213	710–1,215
• Improved and sustainable forest management	205–248	179–186
<b>Agriculture</b>		
• Soil carbon management in grasslands	408	245
• Agroforestry	921	184
<b>Bioenergy</b>		
• Bioenergy combined with carbon capture and storage	202	44
<b>Demand-side policies</b>		
• Shift to a sustainable diet	304	207
• Reduce food loss and waste	116	65

Note: a: Feasible biophysically and using current technology.  
b: Feasible based on current economic constraints over a price range.

Source: Nabuurs and Mrabet 2022.

## SUSTAINABLE INFRASTRUCTURE

Heavy investment in sustainable and resilient infrastructure is required for a successful JST for achieving the Sustainable Development Goals (SDGs) and Agenda 2063. Data from the Global Infrastructure Hub indicate that 79% of global greenhouse gas emissions are related to infrastructure, that 4% growth in global GDP by 2030 is possible with clean energy investments, and that 92% of SDG targets are achievable through infrastructure investment. Investment in sustainable infrastructure thus presents a tremendous opportunity for positive change.

Africa offers promising investment opportunities as part of the global transition to net-zero emissions, with a pipeline of 360 ongoing and committed sustainable infrastructure projects worth about \$100 billion in energy, logistics, mining, construction, and information and communications technology. Additionally, tentative projects valued at \$257 billion in the same sectors highlight Africa's potential in green businesses. But the African Development Bank estimates that about \$2.6 trillion a year through 2030 is required to achieve the SDGs and reach net zero by 2050. Given Africa's wide infrastructure gap, the continent has the advantage of having little legacy infrastructure because the majority still needs to be built. In addition to high perceived risk, investors typically cite two main reasons for the slow pace of capital investment in Africa: insufficient investment-ready projects and lack of platforms. Developing de-risking instruments, such as partial credit guarantees or purchasing power agreements, is critical.

***Africa offers promising investment opportunities as part of the global transition to net-zero emissions, with a pipeline of 360 ongoing and committed sustainable infrastructure projects worth about \$100 billion ...***

Despite obstacles, important initiatives to invest in and scale up sustainable infrastructure in Africa are already under way. For example, the African Development Bank, the African Union, and Africa50 established the Alliance for Green Infrastructure in Africa (at the 2022 United Nations Climate Change Conference) to scale and accelerate financing for green infrastructure projects. The platform seeks funding of up to \$500 million for initial project preparation and development. This funding aims to improve project feasibility and attractiveness, resulting in a pipeline of investment opportunities worth up to \$10 billion for the private sector. The alliance's focus areas include energy, water and sanitation, transport, health infrastructure, urban and rural infrastructure, and broadband infrastructure.<sup>20</sup> Apart from focusing on untapped green investments, it intends to deploy resources to green existing brown infrastructure by, for example, converting heavy fuel oil and diesel plants to gas and hybrid power, as well as by greening nonpower infrastructure, such as fertilizer manufacturing. Other focus areas include infrastructure development for green hydrogen and lithium-ion batteries for the global electric-vehicle market.<sup>21</sup>

## CIRCULAR ECONOMY

With the value of recoverable resources not being collected in Africa estimated at \$7.6 billion a year, the circular economy offers deep investment opportunities.<sup>22</sup> A circular economy is a system-wide approach adopting nature-positive practices that eliminate waste and maximize resource efficiency. Opportunities exist in waste reduction and product innovation, especially in the food and agriculture and manufacturing sectors. Businesses can, for instance, find profitable ways to address plastic waste, from providing sustainable packaging and recycling infrastructure to taking advantage of the rising demand for electrical and electronic equipment by offering e-waste collection and recycling. Existing projects include the Lagos Waste Management Project in Nigeria, a PPP, with a budget of \$200 million that is expected to create more than 27,000 jobs. The Waste Management and Recycling Project in Cape Town, South Africa, is another PPP, with a budget of \$100 million that is expected to create more than 2,000 jobs.<sup>23</sup>

## EXPERIENCES FROM GABON, KENYA, SOUTH AFRICA, SENEGAL, AND MOROCCO

Five countries were selected for case studies on investing in a sustainability transition: Gabon, Kenya, South Africa, Senegal, and Morocco. Each case study reviews the national policy and strategic context and looks at the investment intervention in a sector important for promoting the transition.

### INVESTING IN SUSTAINABLE FOREST MANAGEMENT IN GABON

Gabon's forest ecosystems are globally important for their large trees and high carbon stocks, exceptional biodiversity, and numerous endemic and emblematic species.<sup>24</sup> The forestry sector is a substantial contributor to Gabon's economy. The Forestry Act of 2001, which came into effect in 2005, made sustainable management of all forest concessions compulsory. Starting in 2011, Gabon established a robust national forest and natural resources monitoring system to implement national land use activities and achieve emission reductions, including increasing its forest carbon sequestration potential. It established the National Resource Inventory as part of the monitoring system. The government has committed to an ambitious target of 100% Forest Stewardship Council certification for all its forest concessions.

The government has developed a national investment framework in which it has committed to reducing its greenhouse gas emissions from forests by 50% by 2025 relative to 2005. The framework specifies the use of proceeds from the results-based payment agreement signed with the Central African Forest Initiative in 2019. The Government of Norway partnered with Gabon in 2019 to provide \$150 million in support of the framework. Additional funding has been received through the Central African Forest Initiative (CAFI). With contributions from the national budget,

actual and projected financing for the framework in 2021–27 amounts to \$216 million (table 4.2). Extending the national forest certification programme to include community forests is a high priority in the framework.

**Table 4.2 Financing for implementing Gabon’s national investment framework , 2021–27 (\$)**

2021	2022	2023	2024p	2025p	2026p	2027p	Total
8,284,850	9,930,720	55,845,907	41,030,233	36,884,515	36,011,619	28,070,339	<b>216,058,183</b>

Note: p = projected.

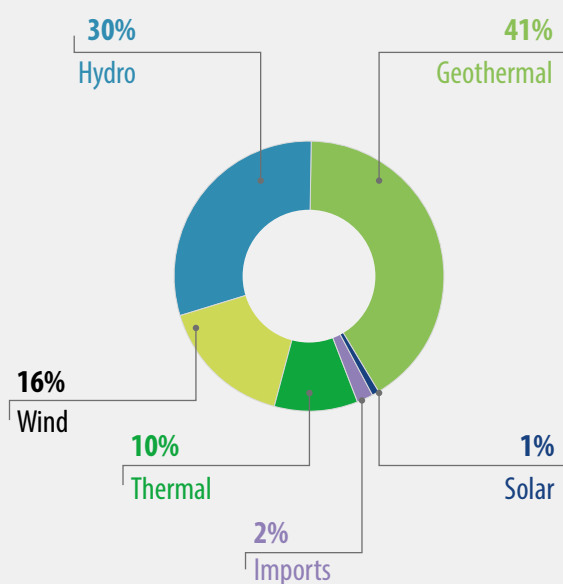
Source: Gabon CAFI 3—Investment Plan Final.

Through investment in sustainable forest management, Gabon continues to secure the following major benefits:

- **Economic.** Employment has risen, driven by the increase in wood-processing industries in the Gabon Special Economic Zone in Nkok, from 80 in 2009 to 155 in 2018.
- **Environmental.** Gabon has minimized its deforestation rate. Total forest area was estimated at 23.6 million hectares in 2010 and at 23.5 million hectares in 2020, a slight decrease of 11,900 hectares in 10 years for a deforestation rate of 0.05%.
- **Social.** Despite a wealth of natural resources and high GDP per capita (\$8,017 in 2021), Gabon’s social indicators remain low, with poverty incidence estimated at 33.4% and unemployment estimated at 28.8% in 2021.

## INVESTING IN GEOTHERMAL DEVELOPMENT IN KENYA

**Figure 4.5 Share of electricity generation renewable energy in Kenya, by source, 2021**



Source: Kenya National Bureau of Statistics. See: <https://www.trade.gov/country-commercial-guides/kenya-energy-electrical-power-systems>.

Kenya has implemented numerous policies, regulatory frameworks, and strategies aimed at accelerating the adoption of renewable energy sources.<sup>25</sup> Aligned with the national development goals in Vision 2030, Kenya emphasizes the development of new and renewable energy sources. The Green Economy Strategy and Implementation Plan (2016–30) further supports this vision, promoting a low-carbon, resource-efficient, and inclusive socioeconomic transformation. The second National Climate Change Action Plan for 2018–22 recognizes the role of renewable energy in reducing greenhouse gas emissions and strengthening resilience to climate change impacts. The national policies and strategies were supported by a suite of legislative and institutional instruments that accelerated the sector’s development.

In 2021, more than 80% of Kenya’s electricity generation came from renewable energy, putting the country on track for 100% clean energy by 2030. More than 40% of total generation of renewable energy came from geothermal power, making it the largest contributor to Kenya’s grid, with approximately 944 MW in 2023 (figure 4.5). Kenya is ranked eighth globally for geothermal power and first in Africa.

The Kenya Electricity Generating Company (KenGen) Good to Great transformation programme introduced a novel financing mechanism, in which KenGen shares were listed through an initial public offering on the Nairobi Stock Exchange in 2007. The proceeds supported various KenGen projects, notably Olkaria 2, Unit 3. In the early stages of geothermal energy development, the main financiers were the government and international development financial institutions. The government has allocated funds through the Ministry of Energy to geothermal projects implemented by the Kenya Power and Lighting Company and later KenGen. These funds have been used for initial exploration, feasibility studies, and high-risk capital-intensive drilling. Development financial institutions have financed geothermal projects mainly through sovereign credits to the state, which directed the funds through non-sovereign credits to KenGen (table 4.3).

**Table 4.3 Early investment in geothermal energy development in Kenya**

Project name	Investment (\$)	Funder/investor	Years disbursed
Olkaria 1	15,805,050	EIB, IBRD	1977–81
Olkaria 2, Units 1 and 2	214,873,830	IDA, EIB, KfW, KenGen	1997–2003
Olkaria 2, Unit 3	121,091,000	IDA, EIB, KfW, KenGen	2007–10

Note: EIB = European Investment Bank, IBRD = International Bank for Reconstruction and Development, IDA = International Development Association, KenGen = Kenya Electricity Generating Company.

Source: Saidet and Muchemi 2015.

PPPs have begun to dominate since the PPP Act of 2013.<sup>26</sup> The 35 MW Menengai Geothermal Power Plant involves the Geothermal Development Company (box 4.5), a fully government-owned entity, and engages in the riskier phases, particularly initial drilling, to de-risk the project and attract private developers.

#### Box 4.5 Geothermal energy development in Kenya

Kenya has developed multiple geothermal installations, which reached a peak generation capacity of 950 megawatts in 2023, capable of powering about 3.8 million homes. All generated power is integrated into the national grid, contributing to gross domestic product, employment creation, investment in education, and reduced greenhouse gas emissions from avoided diesel generation. The increase in electricity access, from 32% of households in 2013 to 75% in 2022, correlates directly with improved living standards.

The success of this gradual transition towards sustainable development can be attributed to prioritizing sustainability in infrastructure development, consistently formulating transformative policies, emphasizing human and ecosystem well-being, conducting rigorous assessments, and adopting transformative governance practices, including establishing the Geothermal Development Company to handle the riskiest aspects of geothermal development.

The evolution in financing models and sources—from government budget allocations and international development financial institutions to such sources as stock markets, feed-in-tariffs, public-private partnerships, and voluntary carbon markets—has contributed greatly to Kenya’s geothermal energy development.

The development of geothermal energy resources in Kenya has led to multiple benefits:

- **Economic.** Geothermal energy development helped lift Kenya’s GDP from \$70.0 billion in 2015 to \$113.4 billion in 2023. KenGen has pioneered energy tourism by creating the largest geothermal spa in Africa, near Olkaria geothermal power stations, to reuse residual heat from power generation.
- **Environmental.** Kenya reduced its carbon footprint from power generation by displacing some traditional fossil fuel-based power generation and having KenGen contribute to different ecosystem restoration initiatives.
- **Social.** Diversifying the energy mix by integrating geothermal power bolsters energy security and generates new jobs in and around the geothermal generation sites.



- **Technological.** Deploying state-of-the-art drilling techniques, such as directional drilling and slim-hole drilling, with binary-cycle power plants harnessing lower-temperature geothermal resources, has expanded the geographic scope of viable sites.

Kenya's leadership in geothermal power stems from the effectiveness of its transformative governance, policy formulation, and infrastructure development strategies. The Geothermal Development Company stands out as a pioneer, mitigating risks and creating an environment conducive to investment. The national commitment to transformative policy formulation is evident in rigorous assessments, robust legal frameworks, and incentives that attract private sector participation, showcasing a sustainable and comprehensive approach. Kenya prioritizes sustainability by integrating environmental considerations, community engagement, and regulatory compliance. These practices not only mitigate risks but also present a model for other countries aspiring to achieve a sustainable transition through renewable energy. The collaboration between public entities such as the Geothermal Development Company and private investors enhances the sector's attractiveness, aligning with global trends.

## INVESTING IN RENEWABLE ENERGY DEVELOPMENT IN SOUTH AFRICA

South Africa has developed a strategic approach to promoting renewables, underpinned by the synergy of national plans, policy frameworks, and collaborative initiatives.<sup>27</sup> This commitment is outlined in key national frameworks, such as the National Development Plan and the Integrated Resource Plan, which set ambitious goals for reducing greenhouse gas emissions and increasing the share of renewables in the energy mix. South Africa's Climate Change Policy Framework further emphasizes mitigation and adaptation strategies, focusing on renewable energy, energy efficiency, and sustainable land use. The carbon tax adds an economic incentive for businesses to adopt cleaner technologies and practices. The goal is to balance economic development with environmental sustainability, leveraging a mix of regulatory measures, economic instruments, and international partnerships.

The Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) is a flagship transformative initiative inviting private investment in renewable energy projects via competitive bidding. It was launched in 2011. By aligning with the National Development Plan and the Integrated Resource Plan, the REIPPPP contributes to a more sustainable energy mix. The Office of the Independent Power Producers—a collaboration of the Department of Energy, the Treasury, and the Development Bank of Southern Africa—was crucial in the success of the REIPPPP. The Treasury's role, particularly providing state guarantees for 20-year power purchase agreements, enhanced the programme's credibility.

In 2011–23, REIPPPP bidding rounds created a dynamic platform for renewable energy investors, attracting 136 preferred bidders (including two peak projects). These accounted for investments of R344.2 billion (\$18.9 billion) for energy infrastructure, 102 independent power producers reaching financial close, and 8,245 MW of electricity capacity procured. This was enough to provide power to more than 28.9 million homes and offset 93.0 tonnes of carbon dioxide.<sup>28</sup> These renewable projects also realized water savings of 109.9 million kilolitres that would otherwise have been used in coal-fired power plants.

The REIPPPP is supported by a diverse array of funding sources, with contributions from the national budget, private financing, development partners, and public contributions. More than 20 debt providers—a mix of foreign and local sponsors, particularly the five largest South African banks—have been pivotal. Of the total investment, 81% came from domestic sources and only 19% from foreign sources. The involvement of local communities, with an average of 9% total shareholding, ensures that benefits are distributed to project host communities for at least the 20-year power purchase agreement period.

A pioneering model for sustainable financing, the REIPPPP has generated the following benefits:

- **Economic.** The competitive bidding process employed by the REIPPPP ensures market-driven prices, fostering cost reductions in energy production. This not only contributes to the country's energy security but

also enhances its economic competitiveness on the global stage. The REIPPPP stimulates economic growth and fosters a more inclusive economic environment by promoting the participation of local businesses through enterprise development, preferential procurement policies, and local content requirements.

- **Environmental.** The REIPPPP was crucial in advancing environmental sustainability by promoting a green economy and reducing the country's dependence on coal-fired power stations, thereby contributing to low-carbon development and climate change mitigation. The substantial growth of renewable energy capacity from 0% to 5% in five years through the inclusion of renewable energy resources in the country's energy mix underscores the programme's positive environmental impact.
- **Social.** The REIPPPP addressed the socioeconomic complexities of South Africa, prioritizing maximum social and economic benefits. It became a driving force for inclusive growth by fostering local job creation, community development, and supporting Black commercial interests. The benefits of the renewable energy projects thus extend beyond the energy sector to broader society.

The REIPPPP proved that an African country can quickly stimulate an indigenous renewable energy industry that can contribute to socioeconomic development and environmentally sustainable growth. Future energy policies can draw inspiration from the REIPPPP, which attracted private investment through competitive tender processes. Emphasizing private involvement and incorporating well-defined institutional frameworks can further drive renewable energy investment, promoting sustainability and efficiency.

## INVESTING FOR GREEN GROWTH IN SENEGAL

The adoption of the Senegal Emergent Plan in 2014 has led to impressive progress in several sectors through its priority action plans, with sustained growth of 6% on average for the subsequent six years until the onset of the Covid-19 pandemic.<sup>29</sup> Senegal's political commitment to climate action and green growth is reflected in the country's Nationally Determined Contributions on climate change, validated in 2020. Senegal also developed its 2050 Long-Term Vision and a roadmap for operationalizing the Long-Term Low Emission Development Strategy to ensure a just transition with a primary focus on the energy sector as the main driver. The national strategy for diversifying energy sources is implemented through the connection of renewable energy production to the network. The government's choice to place the renewable energy subsector at the heart of the Emerging Senegal Plan was also marked by the creation of the National Agency for Renewable Energy in May 2013.

Senegal developed a sustainable financing framework offering clarity and coherence for a consolidated vision of national needs, actions, and progress. The framework aims to increase investment, manage risk, and achieve the sustainable development priorities defined by Agenda 2030. It also provides access to two types of markets for resource mobilization: the use-of-proceeds market consists of an analytical allocation of funds raised towards identified expenses, satisfying the specified criteria in eligible categories, and the sustainability-linked market is based on key performance indicators and sustainable performance targets.

The targets and indicators vary with the financial or structural characteristics of the financing. The financing strategy is based on maximizing bilateral or multilateral concessional loans for rural electrification—a government priority. Mobilizing private financing, particularly for mini-grid and autonomous solar projects—by seeking as many mixed financing opportunities as possible to offer long maturities and reasonable interest rates—is the other track of the financing strategy. This mixed financing combines commercial loans with concessional components or grants, such as what the International Finance Corporation set up to finance renewable energy development. Optimizing innovative financing opportunities, such as climate funds with existing grants and concessional loans, is a third track. The Sovereign Strategic Investment Fund and the Guarantee Fund for Priority Investments are the two institutions accrediting climate financing in Senegal.

Table 4.4 presents the investment mobilized in 2021–23 for major projects related to sustainable energy. More than EUR 1.2 billion has been mobilized, representing the bulk of investment in renewable energy.

**Table 4.4 Financing mobilized for sustainable energy projects in Senegal**

Project name	Structure	Project cost over 2021–23
Universal access to electricity programme for 13,819 rural localities (phase 1)	Ministry of Oil and Energy	FCFA 2200 billion EUR335.4 million
Project to supply electricity to drinking water production units using solar power plants (Solarys)	Sovereign Strategic Investment Fund	FCFA 13.3 billion EUR 20.3 million
Solar pumping stations for agricultural producers	Sovereign Strategic Investment Fund	FCFA 10.0 billion EUR 15.2 million
Sangomar project	Ministry of Oil and Energy	FCFA 323.9 billion EUR 493.7 million
Yaakar–Teranga project	Ministry of Oil and Energy	FCFA 139.6 billion EUR 212.9 million

Source: Priority Adjusted and Accelerated (PAP 2A) 2020.

Because of these investments, the share of renewable energy in total energy production connected to the network rose from 14% in 2019 to 22.5% in 2022. The equivalent share in installed power connected to the network rose from 20% in 2019 to 30% in 2022 (table 4.5).

**Table 4.5 Share of renewable energy in Senegal (%)**

Indicator	Base year	Achievements			Target
	2019	2020	2021	2022	2022
Share of renewable energy in total energy production connected to the network (%)	14	17	20.99	22.49	16.62
Share of renewable energy in installed power connected to the network (%)	20	27	28.44	30	29.65

Source: Ministry of Petroleum and Energy 2023.

The investment model promoted by the government has generated the following benefits:

- **Economic.** Expanding renewable energy infrastructure has given millions of Senegalese access to affordable electricity, fostering growth, sustainability, and resilience in the beneficiary communities. The low tariff of less than EUR 0.04 per kilowatt-hour has improved the purchasing power of the population and stimulated job creation.
- **Environmental.** Investing in renewables has cut greenhouse gas emissions, contributing to global efforts in combating climate change. Two solar power plants have the potential to avoid the emission of about 2.2 million tonnes of carbon dioxide during their operational lifespan.
- **Social.** Improved access to renewable energy, particularly in rural areas, has brought a range of positive changes to local communities, alleviating the burden on women and girls, enhancing health-care services, advancing education opportunities, facilitating communication, boosting agricultural productivity, and improving food security. Renewable energy access fosters growth of income-generating activities and promotes development of a green economy, local SMEs, and employment opportunities for women and young people.

## SUSTAINABLE FINANCE FOR AN ECOLOGICAL TRANSITION IN MOROCCO

Morocco is Africa's second-largest manufacturing exporter, after South Africa. To stay competitive, Moroccan industries need to address the growing impacts of climate change and resource constraints, including for freshwater. The private sector would be a key driver in decarbonizing the Moroccan economy and implementing policy options for adaptation and mitigation. Businesses are increasingly realizing that they must match their operations with sustainability goals to reduce their negative effects on the environment and navigate a changing business environment.

Morocco developed its long-term Low Carbon Strategy with the goal of becoming a leader in climate action by going beyond the Nationally Determined Contributions targets to maximize the benefits of decarbonized growth for the economy, society, and the environment. The Low Carbon Strategy has seven main components: scaling up renewable energy; increasing electrification; exploring green hydrogen; increasing energy and resource efficiency; advancing a circular economy; improving sustainable agriculture and forestry as carbon sinks; developing multimodal transport and infrastructure; and encouraging digital, low-carbon urban development.

Morocco is working to diversify its funding sources to close the sustainability finance gap and achieve the SDGs. The primary source of funding is still public investment, but new tools centre on three main categories of investment mechanisms: new instruments, private investment through PPPs or other mechanisms, and public investment through loans (from multilateral banks or via financial markets). The country has invested \$5.6 billion to supply its economy with inexpensive, clean energy. Numerous projects are under construction, with a combined capacity of about 4.6 GW, and between 2021 and 2023, a further 203 MW of capacity from renewable sources will be put into service (table 4.6).

**Table 4.6 Sustainable investment in different sectors in Morocco**

Project	Investor	Sector	Year	Amount (EUR million)
European Union – Morocco Green Partnership	European Union		2022	115
Noor Ouarzazate Solar Complex	European Investment Bank and European Union	Energy	2015	324
Noor Atlas	European Investment Bank	Energy	2019	129
Moroccan Sustainable Energy Financing Facility	European Union and European Bank for Reconstruction and Development	Multisectoral retrofitting support	2015	110
Office National des Chemins de Fer du Maroc Green Bond	European Bank for Reconstruction and Development	Transport	2022	200
Programme for Agricultural and Rural Areas to Support Sustainable Development	African Development Bank	Agriculture	2020	114
Resilience and Sustainability Facility	International Monetary Fund	Multisector	2023	1,200
“Ghabati Hayati” Programme	Agence Française de Développement	Biodiversity	2020	100

Source: Ben Youssef 2024.

Green bonds have supported climate and environment actions. Morocco issued green bonds totalling \$356 million between 2012 and 2021, ranking it 32 among emerging and developing countries and 4 in the Middle East and North Africa in green bond issuance. Two types of bonds have mobilized resources for environment and climate actions, locally and nationally (box 4.6).

**Morocco issued green bonds totalling \$356 million between 2012 and 2021, ranking it 32 among emerging and developing countries and 4 in the Middle East and North Africa in green bond issuance.**

#### Box 4.6 Two types of green bond in Morocco

**Green innovation of Agadir municipality.** Agadir is the first municipality in Morocco to issue a green bond, with an initial value EUR 91.4 million, that secured a EUR 36.5 million subscription by the European Bank for Reconstruction and Development. The proceeds will finance Agadir municipality's Urban Development Programme.

**Positive impact bond.** This is the first publicly offered product for energy efficiency and renewable energy financing within the framework of the Moroccan Sustainable Energy Financing Facility. The total budget of EUR 55 million includes a 10% customer subsidy and free technical support.

The other notable financing mechanism is the Moroccan Sustainable Energy Financing Facility. A total of EUR 110 million has been allocated for small-scale and industrial projects as part of the facility's support for renewable energy and energy efficiency. As part of the European Union–Morocco Green Partnership, Morocco is working to green its economy and energy sector through the Energie verte programme, which received EUR 50 million from the European Union, EUR 43.6 million of which is budgetary support.

Developing and implementing the different financing mechanisms under the Low Carbon Strategy have yielded the following benefits:

- **Economic.** The energy transition (investments up to 2030) will yield around 28,000 jobs, net. Sustainable finance has created new job opportunities and stimulated economic growth in related sectors. Climate investments in energy-efficiency measures are leading to cost savings for businesses and households, contributing to economic productivity and competitiveness.
- **Environmental.** The ambitious Forêts du Maroc 2020–30 Reforestation Programme has the goal of incorporating 600,000 hectares of forests and arboriculture by 2030. This would reduce its total greenhouse gas emissions by 90% from 2020 levels to about 9.9 million tons of carbon dioxide equivalent in 2050. The Noor Ouarzazate Solar Complex will provide electricity for more than 1 million people and save at least 730,000 tonnes of carbon emissions a year.
- **Social.** Renewable energy initiatives enhance access to clean energy for both urban and rural populations. Improved access to electricity is contributing to a better quality of life and facilitating economic activities, education, and health care for rural populations. The transition to a low-carbon economy is designed to quickly adjust the adaptive capacities of vulnerable households and firms.

## LESSONS FROM THE COUNTRY CASES

Some of the key features of successful initiatives are:

- **An enabling policy and strategy framework.** A stable and consistent policy environment that provides a conducive framework—supported by a clear implementation strategy and an adaptive institutional framework suitable to address policy uncertainties—is crucial for attracting investments and ensuring just and sustainable outcomes.
- **Holistic and integrated planning.** Countries need to move from largely fragmented and siloed planning by adopting a more holistic and integrated process guided by life-cycle considerations. Such an approach ensures that environmental, social, and governance considerations are embedded throughout the project cycle from inception to design, development, and operation.
- **Adaptive financing.** Diversifying financing sources and exploring innovative models are crucial for large-scale projects and adaptive financing strategies flexible enough to attract a mix of public and private investment from domestic and international sources.
- **Stakeholder engagement and equitability.** Active engagement with local communities, government agencies (county and national), and international partners fosters trust and ensures the alignment of investment goals with broader societal objectives, including the just and equitable distribution of benefits to all stakeholders, with particular attention to vulnerable groups, including women.
- **PPPs.** Collaboration between the public and private sectors can overcome financial and technical challenges in developing and implementing projects and programmes. Governments should seek partnerships that leverage the strengths of both sectors, fostering a synergistic approach.
- **National capacity.** Continually investing in research and development and mobilizing national capacity can unlock and develop the full potential of a country's natural resources sustainably, as demonstrated in Kenya's development of geothermal resources and South Africa's solar resources.
- **Addressing capacity gaps.** Capacity gaps in developing high-quality, bankable documentation and contracts are often cited as major limitations for attracting investment. Investors seek clarity and assurance in contractual agreements to mitigate risks, and well-drafted documents contribute to the bankability of projects, making them more attractive to financial institutions and other investors.
- **International collaboration.** To be prepared to use all existing and emerging financing opportunities, countries need to understand the specific entry points for fostering international collaboration with multilateral development banks, international financing institutions, and bilateral development partners.

**Collaboration between the public and private sectors can overcome financial and technical challenges in developing and implementing projects and programmes.**

## ENDNOTES

- <sup>1</sup> AUC and OECD 2021.
- <sup>2</sup> IEA 2022.
- <sup>3</sup> UNDP 2023.
- <sup>4</sup> UNDP 2023.
- <sup>5</sup> Cáceres et al. 2022.
- <sup>6</sup> IEA 2019, Chowdhury et al. 2022.
- <sup>7</sup> GWEC 2019.
- <sup>8</sup> IEA 2019.
- <sup>9</sup> IEA 2019.
- <sup>10</sup> Brown 2022.
- <sup>11</sup> UNEP et al. 2023
- <sup>12</sup> IRENA and AfDB 2022.
- <sup>13</sup> Ouedraogo and Kilolo 2024.
- <sup>14</sup> Bloomberg Finance 2021.
- <sup>15</sup> Garrett-Peltier 2022.
- <sup>16</sup> Ecosystem Marketplace 2023.
- <sup>17</sup> Verma and Chestney 2023.
- <sup>18</sup> ACMI 2022. Africa's share is growing but from a very low base. Africa saw 22 million tons of carbon dioxide equivalent retired in VCM in 2021, representing 18% of global VCM retirement volume that year.
- <sup>19</sup> ECA 2023.
- <sup>20</sup> However, \$10 billion is insignificant compared with what African countries are spending on infrastructure generally.
- <sup>21</sup> AfDB 2023.
- <sup>22</sup> Based on data from the United Nations Environment Programme.
- <sup>23</sup> The amount mobilized through blending is, however, too low, and the impact is much lower if the government has to guarantee private sector loans.
- <sup>24</sup> Moutondo 2024.
- <sup>25</sup> Kituyi 2024.
- <sup>26</sup> Public Private Partnerships Act, 2013; see <http://cn.invest.go.ke/wp-content/uploads/2018/10/PublicPrivatePartnershipsActNo.15of2013.pdf>.
- <sup>27</sup> Amansure 2024.
- <sup>28</sup> Adapted from IPP Office Data, 2023.
- <sup>29</sup> Sane 2024.

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# CHAPTER 5:

## FINANCING STRATEGY FOR A JUST AND SUSTAINABLE TRANSITION IN AFRICA

### KEY MESSAGES

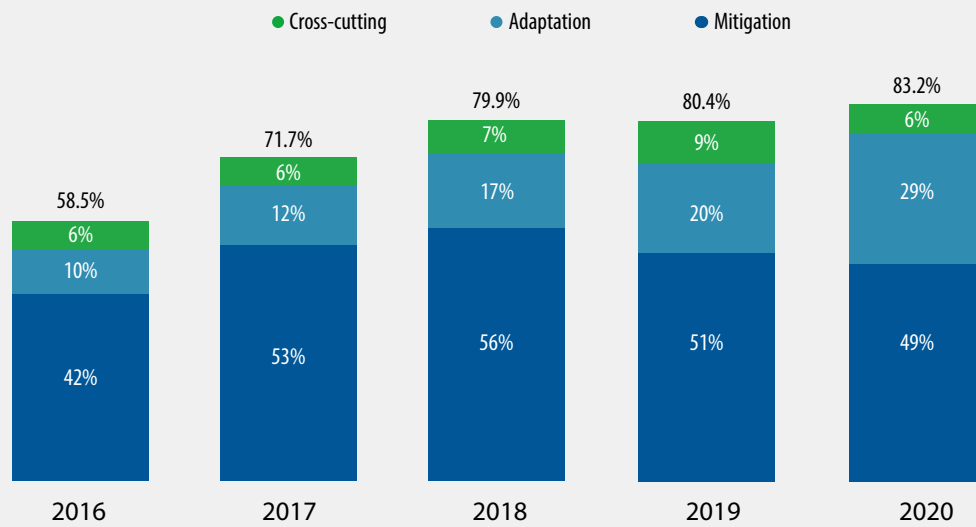
- Africa faces a wide funding gap in implementing its just and sustainable transition (JST). Mobilizing the substantial financing needed to reduce this gap will require enhanced private sector participation and innovative financing.
- The main weaknesses of the global financial architecture from the African perspective are high borrowing costs, capital flight, and Africa's limited voice in global financial governance, which also contributes to the continent's low priority in climate finance.
- Africa still suffers from persistent underfunding and fragmentation of climate finance, so developing innovative financial mechanisms—and better tailoring the blending of public and private resources and instruments in different country, sector, and risk contexts—will help address these issues.
- African countries could expand their fiscal space by leveraging their natural resources—developing strategic minerals, integrating natural capital into national resources accounting, curbing illicit financial flows, and boosting the continent's role in the evolving geopolitical landscape.
- While sustainable financing mechanisms differ across countries, their creation requires coordinated measures in formulating domestic resource mobilization strategies; stopping illicit financial flows; promoting coalitions among public, private, and social entities; and leveraging innovative financing instruments.
- The global financial architecture is failing Africa. The continent has been hard hit by the sovereign debt crisis, which may lead to a decade of lost progress. Financing Africa's JST requires immediately reforming the global financial architecture.
- The High-level Working Group on the Global Financial Architecture that the United Nations Economic Commission for Africa (ECA) co-chairs underscores the following reform areas: fixing the global debt architecture, unlocking more and affordable financing, and reforming governance in international financial institutions.

### AFRICA FACES A WIDE FUNDING GAP IN IMPLEMENTING A JUST AND SUSTAINABLE TRANSITION

In 2009, developed countries committed to mobilizing \$100 billion a year by 2020 for climate action in developing countries, but Africa's share was limited. In 2022, the Organisation for Economic Co-operation and Development reported the aggregate trends of climate finance provided and mobilized by developed countries for 2016–20. Not only was the overall mobilization goal missed (there was a gap of \$16.8 billion by 2020), but climate finance provided by developed countries in 2016–20 also focused largely on mitigation in high-emitting countries (figure 5.1).

*Africa still suffers from persistent underfunding and fragmentation of climate finance.*

Figure 5.1 Climate theme and sectoral split of climate finance provided in 2016–20

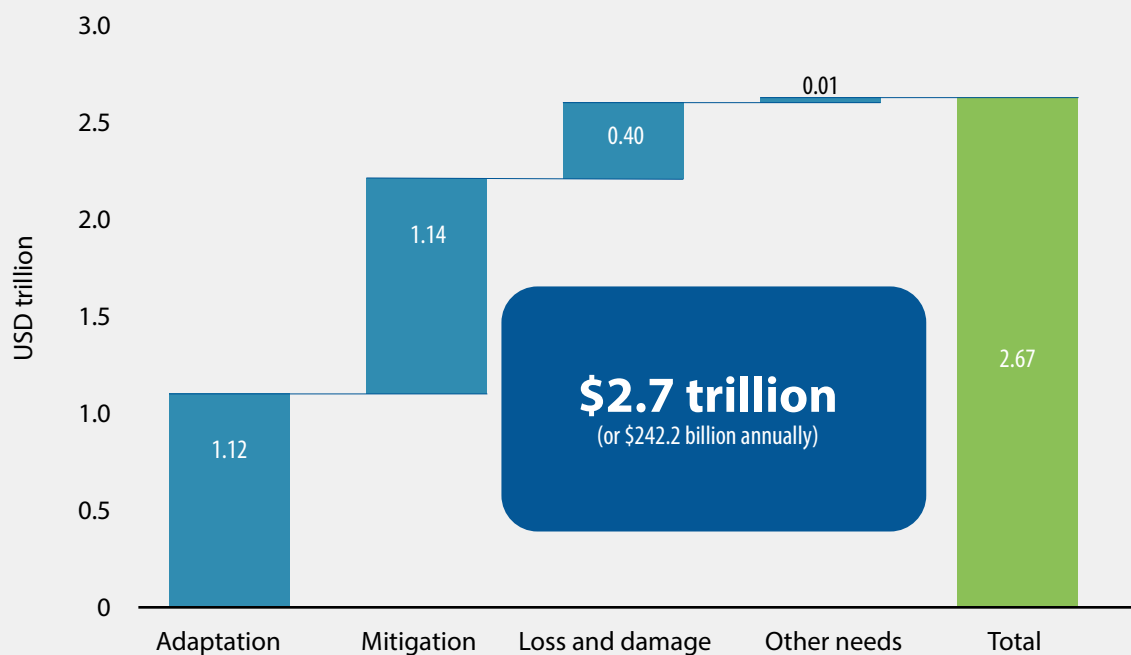


Source: OECD 2022.

Africa still suffers from persistent underfunding and fragmentation of climate finance. From 2019 to 2020, adaptation received \$11.4 billion of the continent's total climate finance, roughly a fifth of the \$53 billion a year allocated under the Nationally Determined Contributions of the Paris Agreement. About 53% of the financing for adaptation is provided by multilateral development banks, with national governments contributing only 23%. A substantial and immediate increase in adaptation financing is therefore required.

Estimates of the financing needed for Africa's JST vary widely, but all are substantial. The African Development Bank (AfDB) estimated Africa's cumulative financing needs for climate adaptation and mitigation (to implement actions specified in the Nationally Determined Contributions commitments) in 2020–30 at \$2.7 trillion, or \$242.2 billion a year. In 2019/20, Africa mobilized total climate finance flows of \$29.5 billion, implying a staggering annual financing gap of about \$213 billion (figure 5.2). The Centre on Sustainable Development at Columbia University

Figure 5.2 Estimated cost of addressing climate change in Africa



Source: AfDB 2023; AEO 2022.

estimates that \$136 billion a year is needed to fund a low-carbon energy pathway for Africa alone, leaving a funding gap of \$132 billion over current investment of \$4 billion a year on low-carbon energy systems.

More broadly, the financing needed for Africa's JST should reflect the costs to achieve the Sustainable Development Goals (SDGs), estimated by the United Nations at \$1.3 trillion a year.

Further, the cost is rising, and Africa cannot meet its SDGs in a vacuum. In 2014, the United Nations Conference on Trade and Development estimated the price tag at \$2.5 trillion a year for developing countries as a group.<sup>1</sup> By 2023, the High-Level Advisory Board on Effective Multilateralism had put the estimate at \$3.9–\$5.3 trillion.<sup>2</sup>

Meeting the challenge of mobilizing finance on a large scale to meet Africa's JST will require enhanced private sector participation and innovative financing. Moves to increase investment in a JST needs to consider national, regional, and global financial flows. Investing at the levels required for a successful JST in Africa will hinge on reforms of the global financial architecture, especially the correction of the unequal flow of financial resources in favour of advanced economies. Africa must act decisively on the global stage—including leveraging the African Union Commission seat in the Group of 20 (G20)—to lead reform of the global financial architecture while exploiting current opportunities to mobilize investment financing.

***Meeting the challenge of mobilizing finance on a large scale to meet Africa's JST will require enhanced private sector participation and innovative financing.***

The weaknesses of the global financial architecture from Africa's perspective are high borrowing costs, capital flight, and Africa's limited voice in global financial governance. These weaknesses have contributed to the enormous debt burdens that many African countries face today while under pressure to borrow more to deal with an increasingly costly climate catastrophe. The African Climate Foundation has developed a comprehensive proposal for reforming the global financial architecture from an African perspective, building on the seminal work by the ECA-coordinated High-Level Working Group on the Global Financial Architecture.<sup>3</sup>

The African Climate Foundation's recommendations for reforming the global financial architecture overlap with the proposals contained in the Nairobi Declaration adopted at the Africa Climate Summit in 2023. Both proposals underscore the need to radically restructuring global balance sheets to accommodate two massive asset movements: the large rise in stranded assets and the construction of new climate-resilient infrastructure. There has already been some movement in the right direction. The Climate Policy Initiative estimated that annual climate finance reached \$1.4 trillion in 2022, more than double the 2020 level. Accuracy and availability of climate finance data have also improved. However, a handful of countries and regions—China, Brazil, India, Japan, the United States, and Europe—received 90% of the increased funds, with Africa staying underfunded and receiving only around 3% of total climate finance in 2022.

Despite these impressive commitments, there is growing evidence of path dependency and greenwashing. Eleven of the biggest European banks own fossil-fuel assets equal to 95% of their equity.<sup>4</sup> Similarly, 60 of the world's largest banks invested \$4.6 trillion in fossil-fuel assets in the six years after the Paris Agreement was signed in 2015.<sup>5</sup>

The high cost of capital and systemic flows of capital out of Africa are challenges. According to the Independent High-Level Expert Group on Climate Finance, 63% of climate finance raised is debt, and only 16% is low-cost or concessional debt.<sup>6</sup> African countries pay 5%–15% in interest payments on borrowing that funds climate actions with global benefits, and their rising indebtedness is worsening Africans' socioeconomic conditions. High borrowing costs also impede the progress of renewable energy technologies. Therefore, clean energy transitions require mobilizing low-cost finance (debt and equity) for capital-intensive solar, wind, and other projects backed by long-term power purchase agreements.<sup>7</sup>

In the medium term, financing the just energy transition and closing the energy gap require a system perspective such as the monetary architecture approach. It views the financial system as a web of changing, interlocking balance sheets controlled by a hierarchy of financial institutions, with central banks and national treasuries as key actors.<sup>8</sup> Each liability is another institution's asset, and vice versa. Once this monetary landscape is mapped, it becomes possible to identify and leverage the most viable elasticity spaces—combinations of balance sheets that could most effectively be expanded to generate the capital required to finance investment for the energy transition and security.

The monetary architecture approach is a medium- to long-term solution, but in the short term, practical solutions are needed, such as those offered by catalytic investors. They complement traditional public and private investors with catalytic capital. They provide “funding that accepts disproportionate risk and/or concessionary returns, relative to a conventional investment, to generate positive impact and mobilize third-party investment that would not be possible in the absence of catalytic funding.”<sup>9</sup> Catalytic investors include philanthropic organizations, development finance institutions, multilateral development banks, governments, private high-net-worth individuals, and various other private investors.

Although catalytic capital is already active on the continent, much more is needed. Government agencies, development finance institutions, Africa-focused philanthropies, aid agencies, sovereign wealth funds, and even pension funds should formulate strategies to identify and promote it. Catalytic capital should strategically blend flows of public, private, and international capital into financial packages that enlarge the flow of investment into sustainable infrastructure. Table 5.1 provides examples of the use of catalytic capital in JSTs.

**Table 5.1 Instruments of catalytic capital and their application to a just and sustainable transition in Africa**

Instrument	Examples	Purpose	Just transition example
Grants	<ul style="list-style-type: none"> <li>Project design</li> <li>Technical assistance</li> <li>Early-stage research and development</li> </ul>	Help make projects commercially attractive	<ul style="list-style-type: none"> <li>KawiSafi Ventures Technical Assistance Facility</li> <li>BlueOrchard InsuResilience Investment Fund</li> </ul>
Unfunded instruments and contingent liabilities	<ul style="list-style-type: none"> <li>Guarantees</li> <li>Insurance</li> <li>First-loss facilities</li> </ul>	Reduce various kinds of investment risks	<ul style="list-style-type: none"> <li>Private Infrastructure Development Group/ GuarantCo</li> </ul>
Co-investment	<ul style="list-style-type: none"> <li>The catalytic capital provider invests alongside private investors, taking on first-mover risk</li> </ul>	Encourage other investors to join through creating scale and distributing risks across a portfolio	<ul style="list-style-type: none"> <li>Evolution II</li> </ul>
Concessionary instruments	<ul style="list-style-type: none"> <li>Subordinated debt</li> <li>Subordinated equity</li> <li>Convertible bonds</li> <li>Securitization</li> </ul>	Priced at a rate designed to attract other commercial investors	<ul style="list-style-type: none"> <li>ResponsAbility Access to Clean Power Fund</li> </ul>
Results-based incentives	<ul style="list-style-type: none"> <li>Outcomes contracts</li> <li>Funds</li> <li>Bonds</li> </ul>	Tie a portion of payments to achieving specific impact objectives	<ul style="list-style-type: none"> <li>Green Outcomes Fund</li> </ul>
Policy instruments	<ul style="list-style-type: none"> <li>Tax credits</li> <li>Subsidies</li> <li>Risk reduction mechanisms</li> </ul>	Incentivize commercial investment in certain areas or mitigate risks	<ul style="list-style-type: none"> <li>Just Energy Transition Partnerships</li> </ul>

Source: Impact Investing Institute and Kruthum 2023.

Overall, mobilizing adequate financing requires a dual framework that combines a monetary architecture approach for reforming the global financial system in the medium to long term with a catalytic capital approach for mobilizing continental and national capital in the near term. This combination can create a sound basis for a financial ecosystem that supports Africa's JST.

## ENHANCING EXISTING AND CREATING NEW CLIMATE FINANCE MECHANISMS

Developing innovative financial mechanisms—and better tailoring the blending of public and private resources and instruments in different country, sector, and risk contexts—would help address Africa's underfunding and fragmentation of climate finance.

Debates on financing sustainable development, which started in the 1990s, have led to the creation of focused global climate finance mechanisms, such as the Global Environment Fund (GEF) and the Green Climate Fund (GCF). Multilateral development banks established windows for environment- and climate-related initiatives. With the adoption of Agenda 2030 and the escalating repercussions of climate change, governments began to establish national funding mechanisms.

***Developing innovative financial mechanisms—and better tailoring the blending of public and private resources and instruments in different country, sector, and risk contexts—would help address Africa's underfunding and fragmentation of climate finance.***

### UN AGENCIES HAVE LED IN CREATING GLOBAL CLIMATE FINANCE MECHANISMS FOR DECADES ...

In response to rising climate and environmental deteriorations and risks, UN agencies have created several dedicated financing mechanisms.

- In 1991, the GEF was established by the United Nations Development Programme (UNDP), the United Nations Environment Programme, and the World Bank to tackle global environmental challenges and advance environmentally sustainable development. As of 30 June 2023, the GEF had funded 1,098 projects on climate change mitigation, investing \$8 billion in 166 countries. GEF project financing leveraged \$68.6 billion from a range of sources, including GEF agencies, governments, multilateral and bilateral agencies, the private sector, and civil society (table 5.2).
- In 2010, the GCF was created by 194 country parties to the UN Framework Convention on Climate Change as a dedicated financing mechanism of the convention and the Paris Agreement. It is the largest global fund for climate action. Since 2015, the GCF has built a portfolio of more than 100 projects (figure 5.3). Africa received \$73.2 million (36.1% of the fund) for ready projects under National Adaptation Plans, \$68.9 million (26%) for projects that are not under National Adaptation Plans, \$15.4 million (41%) for Project Preparation Facilities, and \$4 million (35.4%) for approved projects. African countries have seen benefits, but these are not commensurate with the adverse impacts the countries face.

**Table 5.2 Cumulative Global Environment Fund projects and programmes on climate change mitigation, by region, as of 30 June 2023**

Region <sup>a</sup>	Projects		GEF contribution <sup>b</sup>		Cofinancing <sup>c</sup>		
	Number	Share (%)	Amount (\$ million)	Share (%)	Amount (\$ million)	Share (%)	Cofinancing ratio
Africa	295	26.9	1,552.1	19.3	10,968.0	16.0	7.1
Asia	329	30.0	2,154.4	26.8	25,255.4	36.8	11.7
Europe & Central Asia	170	15.5	807.9	10.1	7,567.1	11.0	9.4
Latin America & the Caribbean	203	18.5	1,562.8	19.5	11,202.3	16.3	7.2
Global	87	7.9	1,837.1	22.9	12,644.2	18.4	6.9
Regional	14	1.3	118.4	1.5	976.8	1.4	8.3
<b>Total</b>	<b>1,098</b>	<b>100.0</b>	<b>8,032.7</b>	<b>100.0</b>	<b>68,613.8</b>	<b>100.0</b>	<b>8.5</b>

a. The region rows include single-country projects in each region, the “global” row includes multicountry projects spanning at least two regions, and the “regional” row includes multicountry projects in the same region.

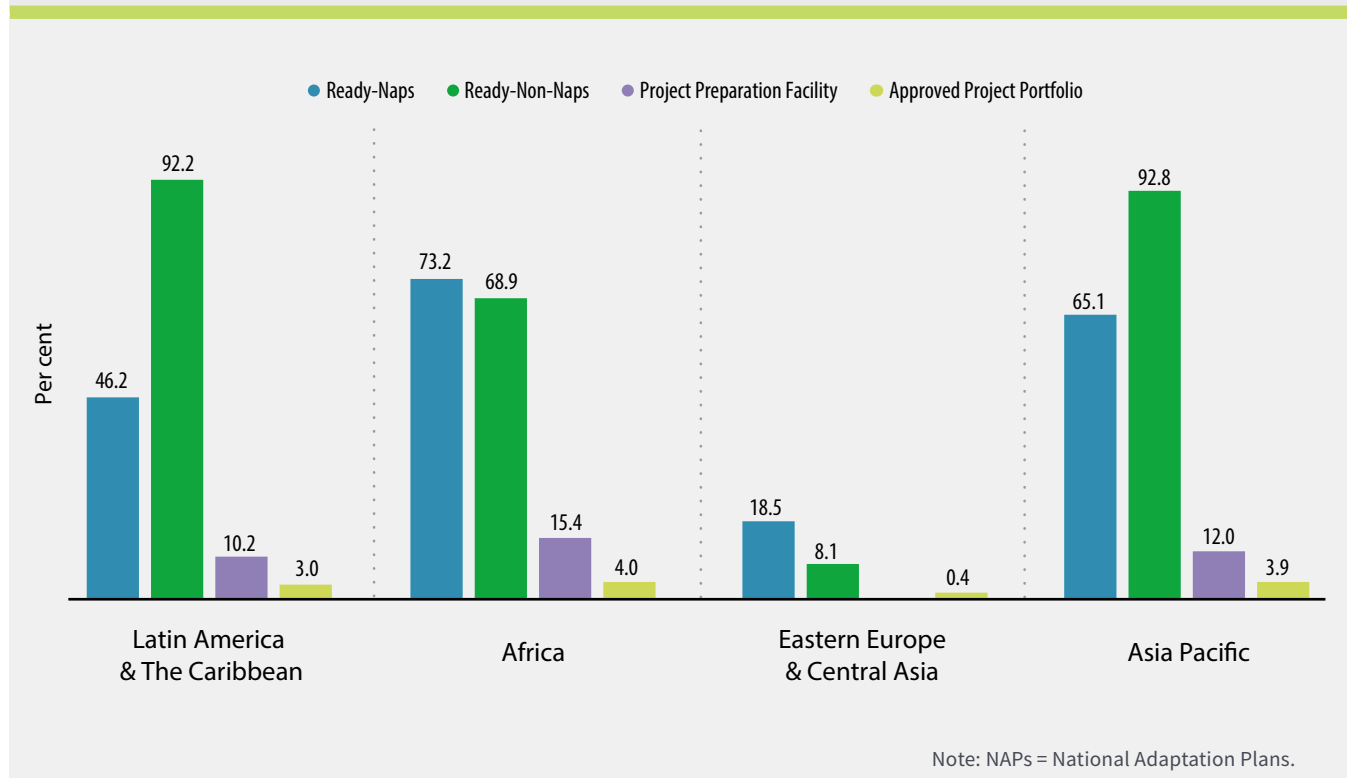
b. Includes all focal area contributions to climate change, including Project Preparation Grants and agency fees.

c. Includes actual and expected cofinancing.

Note: Values may not sum to totals because of rounding.

Source: UNFCCC 2023.

**Figure 5.3 Regional distribution of projects funded through the Green Climate Fund, 2015–22**



## ... AND CONTINUE TO DEVELOP INNOVATIVE INTERNATIONAL FINANCIAL INSTRUMENTS

The growing international consensus on the need to reform the global financial architecture has boosted financing for climate action and sustainability transitions. Several new financing mechanisms have been developed in recent years, including the International Monetary Fund (IMF's) Resilience and Sustainability Facility and the UNDP's Moonshot initiative to mobilize \$1 trillion in game-changing resources to accelerate progress towards achieving the SDGs.

In 2021, the IMF created the Resilience and Sustainability Facility, a \$50 billion trust fund, as part of a commitment by the G20 countries to reallocate \$100 billion in IMF Special Drawing Rights (SDRs) to vulnerable low- and middle-income countries.<sup>10</sup> The aim is to channel affordable, long-term concessional climate finance to middle- and low-income countries for climate change responses, pandemic preparedness, and other reforms. All 54 African countries are eligible for Resilience and Sustainability Trust (RST) funding.<sup>11</sup> As of June 2023, 10 countries had received support, and 5 of them in Africa (Niger, Kenya, Rwanda, Senegal, and Seychelles).<sup>12</sup> Critics have raised concerns about the Resilience and Sustainability Facility's focus on climate and pandemics as too narrow and about its effectiveness when reforms are initiated within an unstable governance and policy setting.<sup>13</sup>

The UNDP launched a bold Moonshot initiative (2022–25) to mobilize, with the private sector and governments, investment of more than \$1 trillion for achieving the SDGs. A network of 39 countries across Africa, the Americas, Asia, Europe, and the Middle East has been established to build a project pipeline to provide investors opportunities to support emerging market and developing economies with country-level SDG-aligned investable projects. The initiative recognizes that to succeed, it will be necessary to move beyond traditional resource mobilization and engage innovatively with the private sector.

## MULTILATERAL DEVELOPMENT BANKS CAN PLAY MUCH LARGER ROLE IN A JUST AND SUSTAINABLE TRANSITION

Multilateral development banks, focused on financing development, accounted for 45% of climate-related finance commitments in 2013–21. The World Bank Group is the largest provider of climate-related development finance from all sources, while the AfDB is focused on Africa and brings African perspectives to the issues. Other regional multilateral development banks—the European Investment Bank, the European Bank for Reconstruction and Development, and the Islamic Development Bank—and several subregional development banks operating in Africa are also funding climate action on the continent.

In recent years, the AfDB has mainstreamed climate issues in its operations across Africa and adopted innovative approaches to support a just energy transition. The AfDB Strategic Framework on Climate Change and Green Growth (2021–30) focuses on: adaptation, mitigation, finance, and enabling environments. The proportion of projects with climate-informed design grew from 77% in 2016 to 94% in 2022. Aligning with Africa's priorities, the AfDB has progressed towards allocating 40% of its annual investment to climate finance, at least half of it for adaptation. Its cumulative climate finance rose from about \$500 million in 2008 to about \$30.4 billion in 2011–22.<sup>14</sup> The AfDB is committed to aligning all its new operations with the goals of the Paris Agreement by 2025 and to catalyse growth in Africa's share of global climate finance to 10% by 2030.<sup>15</sup>

The innovative proposal of the AfDB (and of the Inter-American Development Bank) to channel IMF SDRs through multilateral development banks has gained the support of several advanced economies and international organizations. The mechanism will be structured as a hybrid capital instrument and can be counted as equity on the two banks' balance sheets. The multilateral development banks can multiply the channelled SDRs by at least four times their original values, transferring the static foreign reserve assets to affordable development and climate finance.

## INNOVATIVE NATIONAL AND SUBREGIONAL SUSTAINABLE FINANCE MECHANISMS ARE EMERGING

African countries and subregional institutions have been establishing their own mechanisms to mobilize catalytic domestic finance and to leverage international finance for sustainable development. These mechanisms need to be replicated and scaled up across the continent.

Several African governments have created a national funding mechanism for sustainable development, spurred by Agenda 2030 and the 2015 Addis Ababa Action Agenda for financing sustainable development. They are often supported by global funds such as the GCF and the GEF. Governments are funding adaptation activities and developing technical capacity to mobilize domestic and international finance. Examples include:

The Government of Kenya has launched a County Climate Change Fund for climate action at the local level and has prioritized capacity building at the national treasury to access international climate funding. The central bank has supported a green finance initiative to launch green bonds.

The Rwanda Green Fund has amassed seed capitalization commitments of \$37 million from the UK Foreign, Commonwealth and Development Office, \$8 million from Germany's KfW, and \$5 million from UNDP. The fund has invested some \$40 million in 35 projects in Rwanda through grants, innovation investments, and credit lines.

The Government of Seychelles created a climate adaptation and conservation fund in 2015 to manage the proceeds of a debt-for-climate adaptation swap. The Seychelles Conservation and Climate Adaptation Trust received the proceeds of the \$21.6 million debt buyback, along with additional grants through GEF support of the sovereign blue bond issuance in 2018. The fund allocates annual grants to adaptation projects.<sup>16</sup>

Progress in reforming the global financial architecture is slow and piecemeal. The 2024 Summit of the Future at the United Nations offers an important opportunity to forge a new international consensus on reforming the global financial architecture, with a strong and unified African voice advocating game-changing solutions to the challenges that the continent faces.

Natural capital accounting can help harness Africa's vast natural resources for its JST and sustainable development (box 5.1).

### Box 5.1 Enhancing fiscal space through natural capital accounting

African countries rich in natural resources have an additional potential source of revenue to finance investment and development. However, managing the windfall from resource rents poses challenges for macroeconomic management, including the risk of Dutch disease and potentially sparking conflict. Central to effectively managing a country's natural resources is fully accounting for natural capital and using it for national development planning.

The African Development Bank (AfDB) estimated Africa's measured natural capital at \$6.2 trillion in 2018, putting its mineral resources at \$290 billion and its fossil-fuel resources at \$1.05 trillion. These include oil and gas, minerals, land, sunshine, wind, and biodiversity. About 60% of Africa's GDP is generated from natural resources and essential ecosystem services, which has major implications for national development planning in societies where many subsistence communities depend directly on ecosystem health. The natural resource wealth also creates the opportunity for Africa to leverage it to finance the JST. Seizing this opportunity will require a package of complementary policies, anchored on sound fiscal management and reduced illicit financial flows.

***...natural resource wealth... creates the opportunity for Africa to leverage it to finance the JST.***



In the early 2010s, the World Bank launched the global partnership Wealth Accounting and the Valuation of Ecosystem Services, which evolved into the Global Sustainability Program, the World Bank's umbrella programme on natural capital accounting and the economics of sustainability. This programme has so far supported 14 African countries in carrying out their own programmes with different sectoral focus and scope (box table 1).

**Box table 1 Selected country experiences in natural capital accounting**

Country	Sectoral focus of natural capital accounting	Policy and planning impacts
Morocco	Agriculture and fisheries account	A computable general equilibrium model designed for country-level analysis of medium- and long-run development policies with a focus on the Sustainable Development Goals
Zambia	Forest, water, and land accounts	Used to inform the Eighth National Development Plan and to build scenarios that will inform policy decisions on the use of natural resources
Uganda	Land and water accounts	Recommendations fed into the Third National Development Plan 2020/21–2024/25
Egypt	Waste accounts for Port Said and the Red Sea	Instrumental in designing facilities for waste sorting and recycling

Source: World Bank 2021.

If effectively leveraged—through carbon credits, for example—including natural capital in national accounts and planning could expand the fiscal space of many African countries and facilitate their JSTs. According to the AfDB, global trade in emissions permits could amount to \$1 trillion a year in 2050, with estimated cumulative sales proceeds of up to \$1.5 trillion for Africa.

Similarly, national green banks, which are country-driven climate finance facilities, have emerged in several African countries. They are designed to address domestic market gaps, take ownership of climate finance, and stimulate private investments in low-carbon and climate-resilient projects. Green banks, in combination with national climate change funds, have the potential to mobilize private investment by creating innovative instruments that blend grants and commercial capital to suit local market needs. For example, the Rwanda Catalytic Green Investment Facility, under development in partnership with the AfDB, will use blended financing structures for projects that are not yet bankable through two windows: the Development Bank of Rwanda, to provide direct loans and lines of credits, and a project preparation facility at the Rwanda Green Fund, to provide grants to increase the bankability of projects.<sup>17</sup>

Public development banks and development finance institutions are another means of providing catalytic capital at the national level. There are 133 public development banks in Africa, represented by the Association of African Development Finance Institutions in Abidjan. Globally, 522 public development banks hold \$23 trillion in assets (triple the amount in 2007) and invest \$2.5 trillion a year, some 10%–12% of total global investment. By comparison, multilateral development banks invest \$100 billion a year.

Sustainable financing mechanisms differ across countries, but their creation requires coordinated measures, namely: formulating domestic resource mobilization strategies; stopping illicit financial flows; promoting coalitions among public, private, and social entities; and leveraging innovative financing instruments. The estimated global requirement for domestic mobilization of funds for climate action and sustainable development is \$1.4 trillion a year. African countries can best achieve domestic resource mobilization by finding new and creative ways to unlock catalytic capital to leverage private and public capital investment into accelerating their JSTs.<sup>18</sup>

**Formulating domestic resource mobilization strategies.** Domestic resource mobilization can lift millions of marginalized people out of poverty, improve the quality of their lives and livelihoods, and boost their access to better education, health, and sanitation. It is essential to achieving a JST by addressing looming climate change-related impacts. Domestic resource mobilization strategies are needed to complement public expenditure-based

measures for achieving greenhouse gas emissions targets. Relying solely on public expenditure-based measures during fiscal consolidation creates macroeconomic instability, sharply increasing public debt-to-GDP ratios and jeopardizing the very debt sustainability these consolidations aim to address. Domestic resource mobilization based on robust tax policies could also address inequalities in income and opportunities. An array of measures is needed to boost domestic resource mobilization, including policy dialogue, capacity building, institution strengthening, accountability reforms, and debt management, namely:

- The tax system needs to be overhauled.
- Digital technologies can be used to reduce corruption and tax avoidance and evasion.
- Governments can raise revenue through more progressive income and wealth taxes.
- Environmental taxes could broaden the tax base and spur technological innovation by motivating more environmentally friendly production.

**Stopping illicit financial flows.** Such flows are a major development challenge for Africa, given that it suffers from disproportionately heavy financial leaks from them, feeding into underdevelopment. The data collection and estimates are challenging. Conservative estimates put the losses for Africa at \$1.205 trillion in cumulative gross outflows and \$362 billion in net flows in 2000–16.<sup>19</sup> The cumulative gross outflows were equivalent to 5.3% of GDP and 11.4% of total trade. Because of lost opportunities for development through better education, infrastructure, and quality of life for millions, they threaten countries' ability to achieve a JST by diverting resources. They also undermine the rule of law, exacerbate macroeconomic instability, diminish the quality of political institutions, reduce the effectiveness of tax systems, and weaken social cohesion. Preventing illicit financial flows would reduce redistribution of resources and income inequality.

**Promoting coalitions among public, private, and social entities.** Partnering with multiple stakeholders can improve responses to the crises in energy, food, climate, and nature and help countries advance towards achieving Agenda 2030 and Agenda 2063. But to accelerate a JST will require unprecedented cooperation and collaboration between development agents. The coalition can be expanded to include other stakeholders as well, such as academia, foundations, and nongovernmental organizations. Each stakeholder can direct its efforts towards a common goal, share risks, and merge resources and complementary competencies to enhance value creation towards sustainable transformations.

## Increasing use of credit de-risking instruments such as guarantees and liquidity facilities can also strengthen financial flows.

*Leveraging innovative financing instruments applicable to JST include infrastructure investment trusts, tax-efficient trusts, sustainable public procurement, blended finance instruments, microfinance investment funds, carbon markets and auctions, sustainability-linked bonds, and debt-for-climate and debt-for-nature swaps (box 5.2).* Increasing use of credit de-risking instruments such as guarantees and liquidity facilities can also strengthen financial flows. Innovation needs to focus on how existing instruments are used. Further, efforts to scale up private finance need to target sectors offering greater opportunities to meet the revenue-generation expectations of private financiers.

### Box 5.2 Debt-for-nature and debt-for-climate swaps

A debt-for-nature swap is an agreement between a creditor and a debtor in which the repayment obligations of an outstanding debt are suspended, reduced, cancelled, or otherwise restructured, and the funds are instead allocated to achieving biodiversity outcomes. This type of debt restructuring may also be used to fund climate mitigation and adaptation projects, in which case they are referred to as debt-for-climate swaps. Bilateral or direct swaps and third-party swaps are two of the most common structures for debt-for-nature swaps.

When the swap is bilateral or direct, the creditor government directly cancels the debt owed by the debtor government in exchange for the debtor government setting aside an agreed-upon amount of counterpart funds in local currency for a predetermined purpose, such as a nature conservation project.

A third-party swap involves, in addition to the debtor and creditors, one or more third parties, that is, nongovernmental organizations. In this scheme, the third party typically purchases outstanding debt owed by a debtor country to private creditors at a discounted price, well below face value, in the secondary market. The third party then renegotiates the debt obligation with the debtor in exchange for the debtor's commitment to undertake pre-agreed nature- or climate-related policy actions or investment in local currency.

Debt swaps are one method of debt relief or debt reduction. Debt-for-nature and debt-for-climate swaps enable governments to better finance climate-resilient investment while simultaneously reducing their external debt. Debt-for-nature swaps have been implemented in more than 30 countries. Since 1987, more than \$3.7 billion of debt has been successfully restructured through debt-for-nature swap agreements globally. A recent African Development Bank study shows that many countries, including Angola, Democratic Republic of the Congo, and Zambia, could be good candidates for debt-for-nature swaps in restructuring their debts.

***Debt-for-nature and debt-for-climate swaps enable governments to better finance climate-resilient investment while simultaneously reducing their external debt.***

At the subregional level, the Climate Finance Facility of the Development Bank of Southern Africa (DBSA) is pioneering the green banking model in Africa. It aims to increase private investment in the Southern African Development Community. It provides credit enhancement (\$5–\$10 million) focused on first-loss or subordinated debt and tenor extensions (up to 15 years) to infrastructure projects that demonstrate climate mitigation and adaptation benefits, especially commercially viable projects that cannot attract market-rate capital owing to financing barriers. The Climate Finance Facility raised an initial \$110 million, with DBSA and the GCF the two anchor funders. DBSA provided low-cost debt (\$55 million). Both DBSA and the GCF provided grant funding of \$610,000. The Climate Finance Facility will invest local currency (rand) in projects with the aim of attaining a leverage ratio of 1:5.<sup>20</sup>

## **PRIVATE FINANCING NEEDS TO BE AMPLIFIED AND GEARED TOWARDS STRATEGIC SECTORS**

Given constrained public resources, the private sector is expected to contribute as much as 70% of the overall investments required to achieve net-zero objectives.<sup>21</sup> At 14%, its current contribution to climate funding in Africa is the lowest among global regions. Banks and investors are critical to turning this around.

Private banks have also gained the capacity to tackle the financing requirements of communities hit by negative impacts of climate change. They can achieve this by tailoring their products to the local environment and to the social consequences of climate change. JST considerations thus can be incorporated into banks' product portfolios and used to develop green finance instruments with suitable product specifications, eligibility criteria, financing conditions, and distribution strategies. Table 5.3 outlines funding requirements specific to JST support by client segment, along with other relevant factors.

**Table 5.3 Banking products that can contribute to implementation of a just and sustainable transition**

	Green and low-carbon activities	High-emissions and hard-to-abate activities	Adaptation and resilience activities
<b>Retail customers</b>	Green mortgages and green retail savings products targeting low-income home buyers and other underserved groups.	Energy efficiency loans targeting vulnerable groups.	Climate risk insurance as protection against shocks for households.
<b>Small and medium-size enterprises</b>	Green loans with integrated social performance targets.	Transition finance conditional on the completion of transition plans that also tackle socio-economic aspects.	Climate risk insurance as protection against shocks for businesses.
<b>Capital markets</b>	Blended finance instruments through partnering with financial institutions and climate funds to channel complementary capital to qualifying just transition projects.		
	Green, social, sustainability, and sustainability-linked bonds and loans with integrated just transition-related social performance targets.		

Source: ILO 2023.

Climate-related insurance is another emerging private financing mechanism for Africa's JST. The insurance industry can promote a JST by reducing the risk of adopting low-carbon technologies and business operations while encouraging shifts in consumer behaviour, boosting the resilience of clients in facing climate-related risks, and closing the protection gap and expanding insurance coverage (table 5.4).

**Table 5.4 Examples of insurance products supporting a just and sustainable transition**

Insurance instrument	Contribution to environmental elements of transition	Contribution to social elements of transition
<b>Climate insurance</b> Risk-transfer products with coverage for weather extremes (tropical cyclones, storms, floods, forest fires)	Improving clients' resilience and ability to respond to climate-induced shocks in case of extreme weather events	Improving financial stability and business continuity, and protecting jobs and livelihoods
<b>Car insurance</b> Use-based insurance	Offering pay-as-you-go premiums to motivate drivers to drive safely and less, thus reducing carbon emissions	Offering pay-as-you-go insurance as a more accessible pricing model than fixed insurance premiums, which is expensive for low-income individuals
<b>Climate-related health insurance</b> Inclusive heatstroke insurance; insurance related to climate-induced epidemics and pandemics	Helping clients recover from climate-induced health-related challenges by creating complementary financial support mechanisms for individuals and communities	Maintaining the financial resilience of populations affected by extreme heat and by increased illness, epidemics, and pandemics and protecting their productive capacity and livelihoods
<b>Agricultural insurance</b> Insurance linked to specific weather indices, such as historical data for rainfall or temperature	Supporting climate change adaptation by improving financial stability and protection in case of extreme events	Lowering transaction costs for farmers, offering quick and reliable financial support, facilitating faster recovery, and improving access to credit and investments in productive activities

Insurance instrument	Contribution to environmental elements of transition	Contribution to social elements of transition
<b>Business insurance</b> Business interruption insurance	Supporting businesses' ability to withstand climate events that impact their operations	Raising business stability and continuity and sustaining livelihoods in the face of climate events
<b>Complementary unemployment insurance</b>	Offering complementary support for firms and individuals affected by the climate transition	Providing support that complements state protection for employees while they search for jobs or reskill

Source: Golnaraghi and Mellot 2022; ILO 2023.

## REFORMING THE GLOBAL FINANCIAL ARCHITECTURE FOR A JUST AND SUSTAINABLE TRANSITION IN AFRICA

UN development financing initiatives have exposed the need to reform the global financial architecture—governance arrangements for the stability and functioning of the global monetary and financial systems. This includes governance of international financial institutions, such as the IMF; financial standard-setters, such as the Financial Stability Board; monetary arrangements, such as regional financial arrangements; informal country groupings, such as the G7 and G20; formal but non-universal norm-setters, such as the Organisation for Economic Co-operation and Development; creditor groups that address sovereign debt issues, such as the Paris Club; and the United Nations as a norm-setter and implementer.<sup>22</sup>

In its current form, the global financial architecture has left Africa underfunded. The system is more cognizant of the needs of advanced economies, relegating African viewpoints to the periphery. Collapsing credit ratings and rising borrowing costs make it hard for African governments to secure external funding. An ECA study shows that, after government effectiveness and macroeconomic variables are controlled for, African countries pay an unexplained premium of 1.7 percentage points on sovereign bonds issued in international markets.<sup>23</sup> Investors point to low sovereign ratings and country risk as major roadblocks to better financing.

Africa's low-income countries have been particularly hard hit by the sovereign debt crisis, which may lead to a decade of lost progress. In February 2024, 7 African low-income countries were in debt distress, and 13 were at high risk of joining them.<sup>24</sup> The G20's half-hearted efforts to ease the burden led to the Common Framework, which has fallen far short of expectations. Meanwhile, the global financial architecture perpetuates and even worsens inequalities. Of the \$650 billion in SDRs allocated by the IMF in 2021, EU countries received \$160 billion, while African countries received \$34 billion—all according to the rules of current and obsolete financial structures. Given these glaring injustices, many African countries now spend more on debt repayment than on health care and other crucial development needs.<sup>25</sup>

Reform momentum is driven by the recognition that profound change of the global financial system is needed to fund climate action and achievement of the SDGs. Key initiatives to reform the global financial architecture are in table 5.5. From the JST perspective, the Sustainable Debt Coalition, led by developing and climate-vulnerable countries and focused on the intersection of climate, debt, and development, is particularly relevant. The Africa Climate Summit led to reform proposals endorsed by African heads of state, while the IMF/World Bank Group African Caucus and the Africa High-level Working Group on the Global Financial Architecture advocate for reform at the ministerial level.

Despite the raft of initiatives, reform progress is slow and piecemeal. As previously stated, the 2024 Summit of the Future at the United Nations offers an important opportunity to forge a new international consensus on reforming the global financial architecture. It will be vital to have a strong and unified African voice advocating game-changing solutions to the challenges faced by the continent.

Table 5.5 Key reform initiatives for the global financial architecture

Initiative	Focus	For further information <sup>a</sup>
<b>Bridgetown Initiative</b>	Providing immediate liquidity support, restoring debt sustainability, mobilizing private investment, increasing concessional lending, and International Monetary Fund (IMF)/World Bank Group (WBG) governance reform	Bridgetown Initiative 2023
<b>UN Secretary-General's SDG Stimulus</b>	Tackling the high cost of debt and rising risks of debt distress, massively scaling up affordable long-term financing, and expanding contingency financing to countries in need	United Nations 2023b.
<b>Sustainable Debt Coalition</b>	Promoting climate-resilient debt clauses, offering guarantees and blended finance, applying a sustainable budgeting approach, using key performance indicators, and ensuring greater voice for borrowers	ECA 2023b (Resolution 2023/7)
<b>Vulnerable Twenty</b>	Reforming global debt architecture, credit and guarantees, Special Drawing Rights (SDR) system, and multilateral development banks	V20 2023
<b>Africa Climate Summit Nairobi Declaration</b>	Reforming the SDR system, global debt architecture, and multilateral development banks; increasing international tax cooperation; and offering blended finance	AU 2023
<b>African Caucus Sal Declaration</b>	Reforming the global debt architecture; the IMF's Poverty Reduction and Growth Trust (PRGT), Resilience and Sustainability Trust (RST), SDRs, and governance; improving the WBG's evolution roadmap; and increasing blended finance	IMF and WBG African Caucus 2023
<b>Africa High-level Working Group on the Global Financial Architecture</b>	Reforming the global debt architecture; the IMF's Poverty Reduction and Growth Facility, Resilience and Sustainability Trust, SDR system, and governance; revising credit rating systems; reducing borrowing costs; and improving the WBG's evolution roadmap	ECA 2023c (Resolution 2023/11)

a. This column references the relevant documents/declarations/resolutions for each initiative. Full source information for each document can be found in the reference list.

Source: ECA construction.

Financing JSTs in Africa requires immediately reforming the global financial architecture. The Africa High-level Working Group on the Global Financial Architecture that ECA co-chairs underscores the following reform areas: fixing the global debt architecture, unlocking more and affordable financing, and reforming governance in international financial institutions.<sup>26</sup>

The global debt architecture needs to be fixed to reduce Africa's debt burden and create space for investing in a JST. Owing to inadequate investment in resilience, climate change will engender high socioeconomic costs. To break out of this vicious cycle, countries must manage current debt effectively and pave the way for future finance to be more affordable. The following are key measures for fixing the global debt architecture:<sup>27</sup>

***Financing JSTs in Africa requires immediately reforming the global financial architecture.***

- **Reforming debt resolution mechanisms.** Countries in debt distress need to have access to an effective debt resolution mechanism. The reforms of the G20 Common Framework need to make the framework more inclusive, timely, and transparent. Effective participation of creditors and across all countries, especially non-Paris Club creditors, needs to be ensured. Debt service should be suspended for all Common Framework applicants to offer relief and incentivize rapid restructuring. Eligibility for the Common Framework should be extended to all middle-income countries.
- **Debt-for-climate and debt-for-nature swaps.** Innovative mechanisms for debt relief such as debt-for-climate and debt-for-nature swaps hold great potential for reducing countries' debt service burdens, even for those not in debt distress. Several African countries, including Cabo Verde, Gabon, and Seychelles, have conducted such swaps in recent years.
- **Reducing capital costs.** African countries struggle with some of the highest borrowing costs in the world, reflecting high perceived risks. In addition to de-risking, enhancing the regulatory framework for credit rating agencies is vital to reduce those costs. The framework should improve transparency in methodology and ratings processes, establish robust oversight for credit rating agencies operating in Africa or rating African sovereigns, and establish a fair external mechanism for disputing ratings.
- **Modernizing debt instruments.** Debt instruments need to be fit for today's highly shock-prone world of more frequent and severe extreme weather events. Given the size and frequency of shocks, even countries with strong macroeconomic fundamentals can slip into debt when subject to such shocks. Countries need state-contingent debt instruments that function as automatic stabilizers and climate-resilient debt clauses that temporarily suspend debt service payments in the event of climate-related disasters.

**The global debt architecture needs to be fixed to reduce Africa's debt burden and create space for investing in a JST.**

Unlocking more and affordable financing through multilateral development banks will require increased funding for them. Multilateral development banks work with governments and the private sector and are the most effective institutions to provide low-cost, long-maturity financing to mitigate risks faced by private investors and to share risks in the most efficient way. In addition, they have a wealth of knowledge and experience that enables them to combine affordable long-term finance, technical support, and policy advice to deliver sustainable results.

- With more resources, multilateral development banks can be more impactful in addressing global challenges, including through climate change actions, pandemic preparedness, and fragility.
- Multilateral development banks require capital increases and generous replenishment rounds for their concessional lending windows; shareholders should respond.
- Multilateral development banks need to mobilize private capital to maximize the impact of their resources. Multilateral development banks can provide risk-mitigation tools such as guarantees and insurance to reduce investment risks and thus increase the attractiveness of projects to private investors.

The AfDB and the Inter-American Development Bank have developed an innovative proposal to recycle SDRs through them to the hybrid capital scheme, but at the December 2023 meeting, the IMF Executive Board decided to postpone a formal decision. If implemented, the proposal would allow these multilateral development banks the SDRs to expand their lending capacity, potentially by three to four times the amount of the SDRs they receive. Such leverage is not achievable when SDR rechanneling is limited to within the IMF. This decision is disappointing against the current landscape of global finance and countries' pressing needs for a JST.

This postponed IMF Executive Board decision underscores the urgency of reform governance in international financial institutions for rectifying Africa's inadequate voting share. In fact, the issue goes beyond voting share: with

African countries underrepresented on key decisions that affect them, the board's composition lacks the required skills to understand the complexities of Africa's development. With a population of more than 1.4 billion and a crucial stake in the global sustainability agenda, Africa has an IMF quota share comparable to that of Germany.

The recent 50% increase in IMF quotas is in the right direction, but more is needed to rectify inequalities. The relative quota shares and, consequently, voting powers, remain unchanged. A comprehensive reform with a new quota formula is needed. ECA proposes reducing the weight given to openness and reserves in the quota formula and adding a category that captures exposure or vulnerability.<sup>28</sup> Additionally, the World Bank Group should initiate discussions on governance reforms, to lift the voting share of African and other developing countries.

## SEIZING OPPORTUNITIES FOR RESPONSIBLE INVESTMENT GUIDED BY ENVIRONMENTAL, SOCIAL, AND GOVERNANCE CRITERIA

Adopting the UN Principles for Responsible Investment and investment based on environmental, social, and governance (ESG) criteria could provide additional resources for investing in an African JST. Investing responsibly is important because ESG factors affect the risk and return of an investment, and clients demand transparency on how their money is invested.

The UN Principles for Responsible Investment define responsible investment as “a strategy and practice to incorporate environmental, social, and governance (ESG) factors in investment decisions and active ownership.”<sup>29</sup> Generating long-term value requires a globally integrated financial system that is sustainable and economically efficient. Such a system would encourage long-term, responsible investment and benefit society and the environment. The benefits of responsible investment can be seen in agriculture, where it seeks to achieve higher productivity and food security. Such investment would boost the standard of living of smallholder farmers and marginalized and vulnerable populations, alleviating poverty, promoting equality, reducing child labour, and fostering social inclusion.<sup>30</sup>

***The outsized role of the extractive sector in Africa and its damaging environmental footprint mean that Africa has the potential to benefit considerably from ESG-motivated investment practices.***

ESG criteria are the new global norm guiding investment decisions of aid agencies, donors, investors, philanthropists, and others. They are also being considered by credit rating agencies. Investors seek to avoid the reputational risks of being held accountable for the harmful consequences that can arise from investment operations in risky or unethical initiatives. ESG-related breaches have markedly reduced the market value of several large companies and resulted in losses of billions of dollars.<sup>31</sup> Thus, ESG compliance is a risk-mitigation strategy for investors. Even though Africa is still lagging behind on it, the trend can be leveraged in the future. The outsized role of the extractive sector in Africa and its damaging environmental footprint mean that Africa has the potential to benefit considerably from ESG-motivated investment practices. It is essential to surround this sector with safeguards to ensure that minerals for the green transition do not contribute to climate change and the destruction of local ecosystems.



## ENDNOTES

- <sup>1</sup> UNCTAD 2014.
- <sup>2</sup> High-Level Advisory Board on Effective Multilateralism 2023.
- <sup>3</sup> ACF 2023.
- <sup>4</sup> Institute Rousseau et al. 2021.
- <sup>5</sup> Reclaim Finance 2022.
- <sup>6</sup> Bhattacharya 2023.
- <sup>7</sup> IEA 2021.
- <sup>8</sup> Murau, Haas, and Guter-Sandu 2023.
- <sup>9</sup> Impact Investing Institute and Kruthum 2023:10.
- <sup>10</sup> Plant 2022.
- <sup>11</sup> Amr 2022.
- <sup>12</sup> Sebany 2022.
- <sup>13</sup> Welham and Miller 2022.
- <sup>14</sup> AfDB 2023.
- <sup>15</sup> AfDB 2023.
- <sup>16</sup> Richmond et al. 2021.
- <sup>17</sup> Blended finance instruments through partnering with financial institutions and climate funds to channel complementary capital to qualifying just transition projects.
- <sup>18</sup> AfDB, 2022.
- <sup>19</sup> ECA 2021.
- <sup>20</sup> Richmond et al. 2021.
- <sup>21</sup> Vivid Economics 2021.
- <sup>22</sup> UN 2023a.
- <sup>23</sup> ECA 2023a.
- <sup>24</sup> IMF 2023.
- <sup>25</sup> Guterres 2023.
- <sup>26</sup> ECA forthcoming.
- <sup>27</sup> ECA forthcoming.
- <sup>28</sup> ECA forthcoming.
- <sup>29</sup> UN PRI 2021.
- <sup>30</sup> CFS 2014.
- <sup>31</sup> Xue et al. 2023.



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African countries have great opportunities to make the transition to inclusive, low-carbon, and resource-efficient economies. Tapping into these opportunities and transitioning to sustainability require changes in interdependent societal systems across multiple levels, from the operation of global supply chains to the behaviour and values of individual citizens. These transitions, without precedent, represent immensely complex and uncertain processes. Progress will depend on how well African policymakers understand the key dynamics and handle the critical transition elements and drivers in coming decades. They can start by reflecting on their country's development narrative and the types of infrastructure they will need.

The *Economic Report on Africa 2024* lays out the case for investing in a just and sustainable transition to meet the aspirations of the 2030 Agenda and Agenda 2063 for building a prosperous Africa. Building on country case studies and the findings and recommendations of previous Reports touching on structural transformations and sustainability transitions, the 2024 Report assesses the conditions for pursuing that transition in Africa.

African countries can leverage the global boom in “green” minerals and their large renewable-energy resources, tropical forests, and marine ecosystems to export premium carbon credits, generating finance for sustainable investments. Fostering such investment in a just and sustainable transition in Africa will depend on the ability of African countries to mobilize the required financing from domestic and external sources, including climate finance. This year's Report identifies the required policy and institutional frameworks for doing so.